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by

Laszlo Goerke und Markus Pannenberg

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Deutsches Institut für Wirtschaftsforschung, Berlin
Königin-Luise-Str. 5, 14195 Berlin
Phone: +49-30-89789- 0
Fax: +49-30-89789- 200
Internet: http://www.diw-berlin.de

Social Custom, Free-Riders, and Trade Union Membership in Germany and Great Britain

Laszlo Goerke[1] and Markus Pannenberg[2] *

[1] University of Konstanz
Faculty of Economics and Statistics
Fach D 138
D - 78457 Konstanz
e-mail: Laszlo.Goerke@uni-konstanz.de

[2] German Institute for Economic Research (DIW)
German Socio-Economic Panel Study
Königin-Luise-Strasse 5
D - 14195 Berlin
e-mail: mpannenberg@diw-berlin.de

Abstract

In the absence of closed-shops and discriminatory wage policies, union membership can be explained by the existence of social norms. We develop a theoretical framework which nests various social custom models. Using micro data for Germany and Great Britain, we find evidence for social custom effects in the determination of trade union membership in both countries which restrict free-riding on union services. The impact of social custom effects tends to be independent of union density.

JEL Classification: J31, J51.

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1. Introduction

Why do unions have members when it is not compulsory but costly to be one? In general, all employees covered by a collective bargaining agreement obtain the same wage and face the same working conditions, irrespective of their union status. Thus, free-riding on union activity seems to be a dominant strategy. Nevertheless, open shop trade unions characterised by varying degrees of union density are a prevailing feature in a number of European countries. In order to escape the free-rider paradox, one might argue that unions can bestow benefits exclusively on their members. In this case, the nature of these benefits has to be clarified. An approach which has gained prominence in recent years is based on the notion of reputation or prestige, which workers gain by being union members. According to this idea, a social custom exists which rewards union membership with utility gains. While the standard assumption is that reputation or prestige increases with union density, theoretically, independence or a negative relationship can also be justified.

In this paper, we first develop a theoretical framework which nests the different approaches on the relationship between reputation and union density. Our second and central objective is to empirically investigate the importance of social custom effects for the determination of trade union membership, since, thus far, there is hardly any explicit test of such social custom models. We are aware of one study on individual data for Great Britain (Ingham 1995) and of one on aggregate data for Italy (Checchi/Corneo 1996). Ingham (1995) finds that the probability of union membership will rise if family members belong to a union and if the individual's perception of the workplace density increases. However, his findings are restricted to a single British university and its particular set of unions. Checchi/Corneo (1996) use the percentage of leftist votes or strike participation as proxies for social custom effects and also obtain support for the approach. However, the individuals' social environment does not play a role. In other studies, in which the determinants of the individual probability of union membership are analysed, such as Booth (1986) for Great Britain or Lorenz/Wagner (1991), and Ernst et al. (1998) for Germany, social custom effects have not been looked at.

Using data from the German Socio-Economic Panel (GSOEP) and the British Household Panel Survey (BHPS), we investigate whether there is evidence for social custom effects in union membership for male, full-time employees in the private sector of these two countries. As a corollary, we evaluate which of the competing hypotheses on the nature of the social custom effect - does it increase or fall with density or does no relationship exists - is supported

by the data. Comparing our results for two countries with different industrial relations systems allows for inferences about the robustness of the findings on the social custom approach.

In Section 2, we present a general model of union membership, which nests the theoretical approaches pursued thus far. Section 3 outlines our empirical specification. Subsequent to a brief description of the data and the variables in Section 4, we present the estimates of our microeconometric simultaneous equation model in Section 5. Social custom effects restrict free-riding in Germany and Great Britain. Thus, open shop models of trade unionism based on norms or mores are not only a theoretically fertile area of research, but they also conform with the actual behaviour of male, private sector employees in both countries. Conclusions are found in Section 6.

2. Demand for Union Membership and Bargaining over Wages

Suppose being a union member yields employee-specific reputational benefits or prestige. In most of the literature, it is assumed that these benefits are an increasing function of union density (cf. Booth (1985), Booth/ Chatterji (1993), Corneo (1995), Goerke (1997), Naylor (1990), Naylor/Cripps (1993)), and we might interpret this as an indication of conformist attitudes by employees. Moreover, the idea has been put forward that reputation from membership is independent of the size of the union (Corneo (1993), Naylor/Raaum (1993)). This can be labelled unionism founded in sovereignty. Finally, Corneo (1997) has argued that additional reputation might be derived from being a union member before others become one. Hence, reputation might be declining with density and such unions are based on elitist behaviour, to employ Corneo's (1997) terminology.[1]

The alternative assumptions on the behaviour underlying unionism can formally be captured by a general reputation function r^i, which relates the utility from membership to characteristics of the individual i and the size of the union. In developing this general function, we draw on the work by Booth/ Chatterji (1993, 1995) and Corneo (1993, 1997). Let r^i be given by:

(1) $r^i = R + (\gamma^i - \beta)m^\eta$, where $\eta \geq 0$.

The parameter γ^i indicates the individual-specific element of the valuation of unions. Assume that γ is distributed uniformly on the interval [0, 1], where people with a high valuation of

[1] There is a strand of literature (Booth/Chatterji 1995, Denny 1997, Holmlund/Lundborg 1996, Moreton 1998) which combines models which are formally similar to the approaches delineated here with the hypothesis that unions provide pure private goods to its members instead of reputation. The starting point of most these

unions are characterised by a higher value of γ. The parameter η indicates whether union density m has an impact on the reputation from union membership, where density is defined on the unit interval as the ratio of union members to the fixed labour supply, normalised to unity. A value of $\eta = 0$ indicates sovereignty, since the reputation derives solely from being a member, but does not depend on union density. If $\eta > 0$, a value of $\beta \leq 0$ will imply that reputation is unambiguously increasing with union density, where the special case of linearity ($\eta = 1$) has usually been investigated (Booth 1985, Booth/Chatterji 1993, Corneo 1995, Naylor 1990, Naylor/Cripps 1993). Empirical evidence for $\eta > 0$ and $\beta \leq 0$ can thus be interpreted as an indication of conformity. If $\beta = 1$ and $\eta > 0$ hold, reputation will decline with union density for all but the initial union member. Empirical results which lend support to $\beta = 1$ and $\eta > 0$ can be viewed as unambiguous evidence of elitism. Intermediate values of β, $\beta \in]0, 1[$, imply that reputation rises with density for people with a high valuation of unions, while it declines for those with a low valuation. For convenience, we restrict β to the interval $\beta \in [-1, 1]$. Assuming $R > 1$ then ensures that being a union member would always yield a reputation gain in the absence of a membership fee.

Let the utility of a worker be additively separable in the utility u from income and the utility derived from union membership r^i. However, employees not only gain from membership but also have to pay a wage dependent membership fee g, such that the income of an employed union member obtaining the wage w amounts to $w(1 - g)$. [2] The resulting utility is given by $u(w(1 - g)) + r^i$, where $u(\cdot)$ is strictly concave, $u' > 0$, $u'' < 0$. An unemployed union member is usually paying a minimal constant fee, which we normalise to zero, and obtains unemployment benefits B, $0 < B < w$. S/he can remain in the union and if she does, she will receive reputational utility αr^i, where $0 \leq \alpha < 1$. For a labour force of given size, the probability that a worker is employed (unemployed), assuming a random draw from the population, is given by N < 1 (1 - N), where N describes aggregate employment. Since employment is a function of wages w, expected utility of union membership U^u for an individual i is given by:

$$(2)\quad U^{ui} = N(w)\left[u(w(1-g)) + r^i\right] + (1 - N(w))\left[u(B) + \alpha r^i\right]$$

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models is the assumption that the utility derived from consuming the private good is independent of the level of union density, as it is in the case of sovereignty.

[2] Wage-independent contributions yield the same result as we obtain below, sometimes under weaker conditions. In Germany, union members pay wage-dependent fees. In Great Britain, union fees are almost a per capita subscription costs (Booth/Chatterji 1993).

An employee who is no union member does not obtain utility r^i. S/he does not have to pay a membership fee either, but will receive the same wage as a union member. Hence, expected utility of non-membership U^n is the same for all individuals and is given by:

$$(3)\quad U^n = N(w)u(w) + (1 - N(w))u(B)$$

An employee will join the union if the expected gain from doing so is positive. Let Z be the difference between U^u and U^n. For an individual i, Z^i is hence defined by:

$$(4)\quad Z^i = U^{ui} - U^n = N(w)\left[u(w(1-g)) - u(w)\right] + r^i\left[N(w)(1-\alpha) + \alpha\right]$$

$$= N(w)\left[u(w(1-g)) - u(w)\right] + \left[R + \gamma^i m^\eta - \beta\, m^\eta\right]\left[N(w)(1-\alpha) + \alpha\right]$$

A given individual i will be more likely to be a union member, the higher the reputation effect γ^i or the greater their product $\gamma^i m^\eta$ is. For $\beta \leq 0$, union membership will also be more likely the higher the union density is, if $\eta > 0$ holds. A rise in wages has ambiguous consequences on the likelihood of membership.

While the above predictions hold for exogenously given wages and union density, in equilibrium the values of w and m are of such a magnitude that, first, there are no incentives to join or leave the union and, second, they are compatible with the outcome of a union-firm bargaining process. Hence, wages and membership are determined jointly. To illustrate this process, also underlying our estimates, note that joining the union will no longer be advantageous if $Z^i = 0$. For any given level of the density m it is, therefore, possible to determine that wage w which makes the marginal member, that is, the unionist with the lowest value of γ, just indifferent between leaving the union and remaining in it. Since the marginal member k is defined by $\gamma^k = 1 - m$, $Z(\gamma^k) \equiv \tilde{Z} = 0$ describes this situation of indifference. [3]

$$(5)\quad \tilde{Z} \equiv N(w)\left(u(w(1-g)) - u(w)\right) + (R - m^{\eta+1} + (1-\beta)m^\eta)(N(w)(1-\alpha) + \alpha) = 0$$

Parametrically varying the level of density m, a curve MD can be derived from $\tilde{Z}$ which we label membership demand, following Booth/Chatterji (1995). The properties of the MD-curve depend on the assumptions about r^i and $u(\cdot)$ and are analysed in appendix I. Alternative MDs are depicted in figures 1 and 2.

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[3] The identity of our marginal member k hinges on the distribution of γ^i. In general, γ^k is defined by $m = \int_{\gamma^k}^{1} f(\gamma)\,d\gamma$. Since γ^i is distributed uniformly on [0, 1], this leads to the formula given in the text.

Figure 1: Elitism ($\beta = 1$, $\eta > 0$) or Sovereignty ($\eta = 0$)

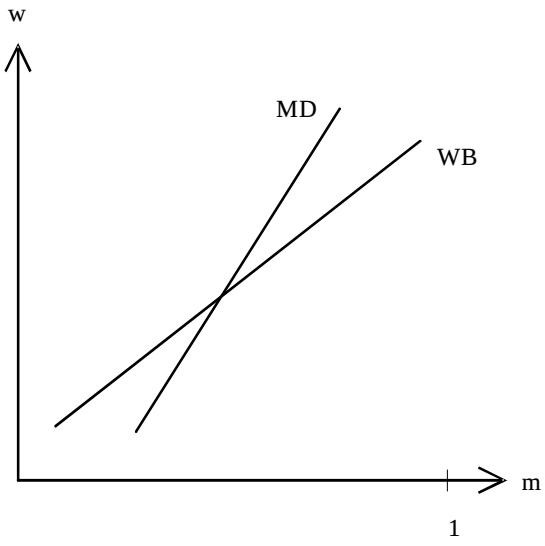
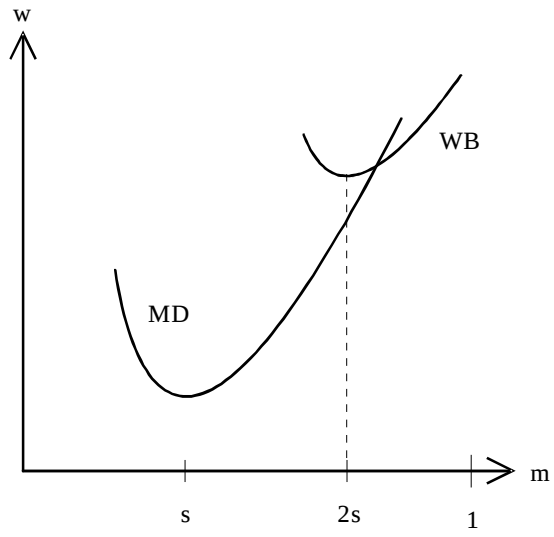


Figure 2: Conformity ($\eta > 0$, $m > 2s$, $\beta \leq 0$)



with $s = (1 - \beta)\eta/(1 + \eta)$

For elitist (sovereign) employees, $\beta = 1$ and $\eta > 0$ ($\eta = 0$) hold and the MD is upward sloping throughout the domain of m (cf. figure 1, where linearity has been assumed for simplicity). For conformist workers, $\beta \leq 0$ and $\eta > 0$ hold true and the MD is given by a convex parabola. For a given density level, the marginal member will gain utility if the wage rises. Points above (below) the MD imply that employees can gain utility by joining (leaving) the union, such that density rises (falls). Hence, only the upward sloping right arm of the MD can be an equilibrium. Thus, if employees are conformist, there will be a minimum density $s = (1 - \beta)\eta/(\eta + 1)$, below which the union will not survive. This is not the case for elitist or sovereign workers (see Corneo (1997)). The stable part of the MD for conformist employees has a positive slope since a higher level of membership m requires workers with lower values of γ to join the union. Since the utility function is concave, these workers have to be compensated for the loss in income owing to the membership fee g by a higher wage w than those workers who are characterised by a greater individual-specific valuation effect γ.

To close the model, a wage determination process will be added to the membership demand mechanism. Suppose, the union maximises expected utility of the median member. It bargains with a profit-maximising company or an employers' association over wages. Given the wage, the company selects the employment level. Applying the generalised Nash-solution, where ρ $(1 - \rho)$ defines the union's (firm's) bargaining power, yields a wage bargaining curve (WB) in the wage-density space, which is defined by $V = 0$ (see appendix II):

$$(6)\quad V \equiv \frac{Nu'(w(1-g))(1-g)}{u(w(1-g)) - u(B) + \dfrac{(1-\alpha)}{(R - \frac{1}{2}m^{\eta+1} + (1-\beta)m^{\eta})^{-1}}} - \frac{1-\rho}{\rho}\frac{N^2}{\Pi} + N_W = 0$$

The intersection of the WB and the MD determines the equilibrium levels of wages and density. For elitist or sovereign employees [$\beta = 1$ and $\eta > 0$, or $\eta = 0$], the WB is positively sloped in the wage-density space since a rise in membership decreases the median member's gain from bargaining - s/he is characterised by a lower value of γ - such that the negotiated wage has to rise. Assuming stability, the MD increases more strongly than the WB, as depicted in figure 1 (see appendix III). For conformist workers ($\beta \leq 0$, $\eta > 0$), the WB will be downward sloping until the union density m reaches a minimum level given by $m = 2s$. Up to this point, reputation of the median member increases with density because the gain from adhering to the norm outweighs the decrease with the individual reputation effect such that the product of γ and m becomes larger. Since a rise in density increases the union's gain from bargaining for $m < 2s$, the Nash-solution requires a lower wage. For $m > 2s$ the WB is positively sloped since the individual effect now dominates the conformity element of reputation and a higher density reduces the median member's gain from bargaining. The wage has to rise. Stability again requires that the MD has a greater positive slope than the WB. Assuming there are no multiple equilibria, figure 2 depicts a potential outcome.

3. Empirical Specification

In our theoretical framework, the MD-curve results from optimising behaviour by individuals, while the WB-curve is based on a union-firm interaction. To assess the impact of social custom effects on union membership empirically, we have to employ individual data. Hence, equation (4) of the theoretical model is the core of our empirical specification. Since union membership and wages are determined jointly, we have to combine our union membership equation with a wage equation. Our data sets provide information on individual wage formation, but no relevant bargaining-specific firm information. However, the individual difference of expected utility from membership and non-membership (equation 4) affects the union's behaviour. Therefore, we add latent union membership to a standard human capital framework. Clearly, combining equation (4) of our theoretical model with an individual wage equation does not amount to a full structural test, but it allows us to approximate the parameters of equation (4) while controlling for the simultaneity of union membership and wages. Our simultaneous equation model is then given by:

(7) $y_{1i} = \tau_1 y^*_{2i} + \beta_1' X_{1i} + u_{1i}$ (*wage equation*)

(8) $y^*_{2i} = \tau_2 y_{1i} + \kappa_1' S_i - \kappa_2 M_i + \beta_2' X_{2i} + u_{2i}$ (*union membership equation*)

It is assumed that the wage y_{1i} is observed directly, but only the sign of our latent variable y^*_{2i}, which is the difference of expected utility from membership and non-membership. In terms of our theoretical model, $Z^i > 0$ implies $y_{2i} = 1$, and a loss of expected utility due to membership entails $y_{2i} = 0$. Equation (7) is an extended standard human capital earnings equation. The union membership equation (8) is a linear projection of the latent variable y^*_{2i} on our social custom proxies ($S_i \sim \gamma^i m^\eta$, $M_i \sim [m^\eta]$), the observed endogenous individual wage and a set of regressors. τ_1, τ_2 and κ_2 are scalar unknown parameters, κ_1 is either a scalar unknown parameter or a two component vector of unknown parameters, β_1, β_2 are K_1 and K_2 component vectors of unknown parameters, and X_{1i} and X_{2i} are K_1 and K_2 component vectors of known constants. Furthermore, u_{1i} and u_{2i} are i.i.d. bivariate normal variables.

Several two-step procedures for estimating our simultaneous equation model have been suggested in the literature (Amemiya 1978, Blundell/Smith 1993, Heckman 1978, Maddala 1983, Rivers/Vuong 1988, Pohlmeier 1989). Since no general asymptotic efficiency ordering between these estimators is possible (Blundell/Smith 1993, Rivers/Vuong 1988), we choose Maddala's estimator. [4] Maddala (1983, pp. 244-245) suggests the following procedure: first, the parameters of the reduced-form equations of our system ((7) and (8)) are estimated by OLS, respectively probit ML, and second, after substituting the predicted values of the reduced-form estimates for y_{1i} and y^*_{2i}, the structural equations (7) and (8) are estimated by OLS, respectively probit ML. The conditions for logical consistency are fulfilled in our particular system; standard exclusion restrictions for identification have to be ensured (cf. Heckman 1978). As a third step, the asymptotic covariance matrices of the two-stage estimates are computed along the lines proposed by Maddala. Appropriate marginal effects for continuous and dummy variables are calculated for the union membership equation at the means of the exogenous variables. Their asymptotic variances are derived from a first-order Taylor expansion around the marginal effects, again evaluated at the means of the exogenous variables.

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[4] Rivers/Vuong's (1988) Monte Carlo results suggest that, in small samples, their two-stage conditional maximum likelihood estimator (2SCML) might outperform the competing estimators. Therefore, we also applied their 2SCML to our data. We found no noticeable differences to the results reported in the paper.

4. Data and Variables

To test the implications of our open shop trade union model, individual data is required with information on union membership, wages and individual commitment to unionism. Moreover, to allow inferences from our results with respect to the social custom proxies, we investigate their impact within two different systems of industrial relations. In the European context, Germany and Great Britain differ significantly with respect to labour market institutions, union power and bargaining levels (Layard et al. 1991). Therefore, our data stem from the German and the British household panel studies, the GSOEP and the BHPS, respectively. The GSOEP is a nationally representative longitudinal data set for Germany, first conducted in 1984 (cf. Wagner et al. 1993). It provides data on union membership for the years 1985 (wave two), 1989 (wave six) and 1993 (wave ten). The BHPS consists of representative longitudinal data for Great Britain (see Taylor 1994). Our data stem from waves one to five (1991-1995). In the relevant section on 'Employment', the BHPS provides, inter alia, information (a) on union association, i.e., membership in a workplace union which is recognised for the purpose of negotiation, (b) working at a workplace with a recognised union but without individual membership and (c) union membership, where the union is not recognised at the workplace. While this information is available for all respondents in 1991 and 1995, from 1992 to 1994 only new entrants and employees who changed jobs within or between employers were asked about their current union association. For all other respondents we exploit the information from wave one in our samples for 1992 to 1994. In all waves the BHPS also contains a section on 'Opinions and Values' with information on trade union membership. Unfortunately, owing to the exact choice of words, the relevant information from the different sections is not entirely comparable. Crosstabulation indicates a potential for misclassification of about 2 % for 1992 to 1994. Note furthermore that neither the GSOEP nor the BHPS provide valid information on private union-supplied goods.

The crucial task of our empirical work is to find appropriate proxies for the individual-specific element of the valuation of unions γ^i. Ideally, we would measure individual predisposition based on experimental information about attitudes. However, such information is not available in our data. Since actual behaviour and attitudes are strongly influenced by actions, beliefs and opinions of friends, colleagues and family members (Deery/De Cieri 1991, Naylor/Cripps 1993 or Windolf/Haas 1989), we hypothesise that such information can adequately approximate the individual specific element of union valuation γ^i. In particular, we employ two types of social custom proxies.

The first proxy is based on information on actions and political beliefs of the respondent's spouse or partner. With respect to the action of the spouse we use her union background as a proxy for the respondent's commitment to unionism. Our conjecture is that the union membership of the partner signals appreciation of union activities within the family. Concerning political beliefs, we exploit information on the political preferences of the respondent's spouse or partner. Our hypothesis is that if the partner prefers a political party which sympathises with or opposes trade unions, this will be an indicator for peer pressure to join or not to join a union. Facing the political systems of Great Britain and Germany, we conjecture that members of the Labour Party, respectively the Social Democrats (SPD), go along with the collective principles of unionism. Members of the Conservatives, respectively the Christian Democrats (CDU) or the Christian Social Union (CSU), tend to oppose political activities of unions.

The second type of a social custom proxy relies on information on the occupational status of the respondent's father, when the respondent was young. The reason being that the early socialisation process within the family is an important determinant of union membership (Windolf/Haas 1989). We exploit information on whether the respondent's father was a blue-collar worker, when the respondent aged 14 (Great Britain) or 15 (West Germany), since blue-collar workers tend to sympathise with unions.

In our theoretical model, the gains or losses from conforming with the social custom of union membership are modified by the individual valuation of the reputation from unionism $\gamma^i m^\eta$ (equation (4)). Hence, our social custom proxies are interactions of the relevant partner, respectively father, information and the respondent's lagged industry-specific union density. The information on industry-specific union density is lagged by one period, since we take it as given for the individual decision making process. It is obtained from official statistics for both countries.[5]

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[5] In Germany, the 'Statistische Jahrbücher' provide information on the number of union members for the relevant years 1984 and 1988 for West Germany and for 1992 for the reunified Germany. German unions sometimes have members in more than one industry, and occasionally more than one union might have members in the same industry (cf. Lorenz/Wagner 1991, Ernst et al. 1998). To minimise the resulting assignment problems, we calculate industry-specific union densities as the ratio of aggregate membership of a specific union to the number of employees in those industries in which the specific union is the most important. In addition, since it is not possible to assign members of the 'Deutsche Angestelltengewerkschaft' accurately to different sectors, we restrict our computations to unions organised in the 'Deutsche Gewerkschaftsbund (DGB)'. The DGB covers roughly 85 % of all union members in the relevant years. For the data, see Statistisches Bundesamt (ed.), Statistisches Jahrbuch, various issues. In Great Britain, the official statistics provide information on industry-specific union densities based on SIC-Codes. See British Employment Department (ed.), Employment Gazette, various issues and the Office for National Statistics (ed.), Labour Market Trends, various issues.

Employing the restrictions imposed by our choice of social custom proxies and after excluding all observations with missing values on the relevant variables, the basic samples used for this study consist of male respondents with a partner, between 18 and 55 years (West Germany) and 18 and 65 years (Great Britain),[6] who work full time in the private sector in the relevant year, i.e. 1985, 1989, 1993 for West Germany and 1991-1995 for Great Britain and who provide valid wage information. Since our theoretical framework assumes a bargaining process between a union and a company or an employers' association, we furthermore restrict our sample for Great Britain to workers in firms with a recognised union or staff association, which typically have a higher union density than companies without recognised unions. [7] Finally, in our German sample we eliminate white-collar workers in extensive managerial positions because they effectively act as employers in the wage bargaining process. [8] Our dependent variables are union membership constructed as a dummy and log of hourly wages calculated from information on the current gross monthly wage/salary and on weekly (West Germany) or monthly (Great Britain) working hours. Table 3a, b and 4a, b in appendix IV explain the variables for the different subsamples for West Germany and Great Britain and provide their means.

To ensure identification in our simultaneous equation framework, we impose the following exclusion restrictions: in all wage equations for West Germany and Great Britain, the social custom proxies constructed with spouse/partner or father information are excluded. Thus, we assume that potential correlation between the respondent's hourly wages and observed characteristics of the partner or the father is only based on latent union membership of the respondent. Note that our conjecture corresponds to our theoretical model which predicts that the social custom variables do not affect bargained wages directly. It is only the median member who determines the union's behaviour. In our union membership equations for Great Britain, regional information is excluded, since we presume that membership effects across space are captured by our family-specific information on social custom and appropriate industry dummies. Due to the fact that the German industry-specific union densities, which we have calculated, are based on the same level of aggregation as appropriate sector information, we

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[6] The upper age limit for Germany is set at 55, since we want to exclude all forms of early retirement schemes, which are fairly prominent in Germany but less so in Great Britain.

[7] Due to our sample design, we, therefore, cannot provide estimates of a typical union wage differential for Great Britain like the ones obtained by Andrews et al. (1998) or Stewart (1995), for example.

[8] Our selection decision is in line with that of Schmidt (1994) on relative wage effects of German unions. Within the BHPS we cannot distinguish between different types of managers.

drop industry dummies in our union membership equation. In addition, higher order polynomials of tenure and potential experience are excluded from the union membership equation for both countries. If sovereignty is imposed ($\eta = 0$), then lagged union density drops out from the union membership equations for both countries.

In Section 2, we have conjectured that the effect of union density on reputation might be non-linear (cf. equation (1)). To test this hypothesis, we employ a polynomial approximation up to order 4 in preliminary regressions. Since standard tests reject the hypothesis of non-linearity, we use a linear term of lagged union density in the estimations below. Thus, our result is in line with a value of $\eta = 0$ or $\eta = 1$, as it has usually been assumed in the theoretical literature.

5. Results

The focus of our empirical study is on the union membership decision and the influence of social custom variables. Therefore, we only discuss in detail the results of the relevant social custom parameter estimates of the membership equation for both countries below. Complete results for all specifications of the membership and wage equations for both countries are provided in appendix IV.

Germany

Table 1 reports the estimated parameters of the social custom proxies in the union membership equation for the years 1985, 1989 and 1993.[9]

- Table 1 -

Considering the social custom proxies based on information with respect to union membership of the partner (specification A.I.a), all estimates indicate a significantly positive impact of peer pressure within the family on the likelihood of union membership. The corresponding marginal effects are 0.006 (0.001), 0.005 (0.001) and 0.005 (0.001). [10] In addition, the estimated parameters of lagged union density are always positive, but only significant in 1985. The corresponding marginal effect is 0.003 (0.001). Both results for 1985 provide evidence that reputation is increasing with union density. In terms of our theoretical model, this indicates that $\eta = 1$ and $\beta < 0$ hold and points to conformity based unionism in 1985. However, the non-significant parameter estimates for lagged union density in 1989 and

[9] The R^2 of the reduced-form estimates of the wage equation range from 0.40 to 0.47. The overall Likelihood-Ratio-statistics of the reduced-form estimates of the union membership equation are always significant at $\alpha = 0.01$.

1993 can either be caused by $\eta = 0$, indicating sovereignty, or by $\beta = 0$, that is, the borderline case of conformity.

In order to test for the impact of the belief in the collective principles of unionism, we employ the information on 'partner prefers SPD, or CDU/CSU', interacted with lagged industry-specific union density, as a proxy for social custom effects (specification A.I.b). In 1985, the corresponding marginal effect of the interaction of 'partner prefers SPD' and lagged union density is significant and positive [0.002 (0.0008)], and the marginal effect of the interaction of 'partner prefers CDU/CSU' and lagged union density is also significant but negative [-0.002 (0.001)]. Since, broadly speaking, the SPD supports unions while the CDU/CSU opposes them, these results provide support for the 'symmetry of solidarity effects' assumed by Naylor/Cripps (1993): employees can derive utility either from a social custom of union membership or from an opposite norm of non-membership, and respective reputation effects depend on the size of each group. However, we do not find these effects for the year 1993. In 1989, only the marginal effect of the interaction of 'partner prefers SPD' and lagged union density is positive and weakly significant [0.002 (0.0008)]. These findings could indicate that the impact of social custom effects - approximated by the political preferences of the respondent's partner - has vanished over time. Another explanation might be that the close political link between the German unions and the SPD has been eroded. Accordingly, disobeying the SPD group norm of unionism might have caused a loss of reputation, which has declined over time. In line with our results presented above, the positive and significant estimate of lagged union density signals that, in terms of our theoretical model, $\beta < 0$ and $\eta = 1$ hold in 1985. Hence, we again find supportive evidence for unionism based on conformist attitudes for 1985.

Taking into account that there is no clear-cut evidence for the years 1989 and 1993 for both specifications, we impose the restriction of sovereignty ($\eta = 0$) in equation (4) and re-estimate our system for both social custom proxies and all years (specifications A.II). The estimated parameters employing the information on union membership of the partner are always significant and positive. The corresponding marginal effects are 0.294 (0.045), 0.274 (0.045) and 0.268 (0.053). Regarding the political beliefs of the partner, the estimated parameters for 'partner prefers SPD' are positive and significant for the years 1985 and 1989 and the one for 'partner prefers CDU/CSU' is negative and significant for 1985. Hence, most results lend

[10] Standard errors in parentheses.

support to the existence of peer pressure within the family, independent of the level of union density.

An obvious drawback of our estimates using spouse or partner information is the potential of biased estimates due to assortative mating (Becker 1981).[11] If there is positive sorting on union membership, our estimates might be biased upward. Therefore, we use information on whether the father was a blue-collar worker when the respondent was 15 years of age to construct our social custom proxy. Employing our general reputation function, all estimated parameters of the proxy 'father blue-collar worker' interacted with lagged union density are positive and significant (specification B.I). The corresponding marginal effects are 0.004 (0.001), 0.005 (0.001) and 0.002 (0.001). This indicates that the early socialisation process within the family matters for union membership. Hence, we again find evidence for social custom effects. However, in contrast to the results employing the partner information, none of the estimated parameters for lagged union density is significantly different from zero. Therefore, we are able to rule out elitism, that is, $\eta > 0$ and $ß = 1$. Moreover, conformity can only exist if the borderline case $ß = 0$ applies. Imposing $\eta = 0$, the results once again indicate the existence of social custom effects independent of the level of union density (specification B.II). [12]

The parameter estimates for the endogenous variable log of hourly wage are not significantly different from zero in all years and all specifications (see appendix IV, Tables 5 - 7). This provides support for the public good hypothesis of wages. [13] Our result is in line with most evidence from panel-probit parameter estimates for monthly income provided by Ernst et al. (1998),[14] but not with the single equation parameter estimates obtained by Lorenz/Wagner (1991) for 1985 data also from the GSOEP. Lorenz/Wagner find a concave probability profile with respect to yearly income. However, first, they do not disentangle the effects of hourly wages and hours of work, employing an annual income measure, and second, they do not control for the simultaneity of wages and union membership.

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[11] Of course other unobserved common components, which are not caused by assortative mating, can also lead to biased estimates.

[12] The corresponding marginal effects are 0.148 (0.040), 0.152 (0.038) and 0.077 (0.043).

[13] The estimated parameters of latent endogenous union membership in the wage equation are not significantly different from zero for all years. This is in accordance with the results of Schmidt (1994), who employs single equation methods with observed union status. Note that the results of Wagner (1991) contrast with these findings. Schmidt (1994) offers an extensive explanation.

[14] Employing different specifications within a balanced, respectively unbalanced panel design, they obtain no significant parameter estimates for two (including the preferred one) out of three specifications.

The probability of union membership generally increases with firm size for all estimates. For example, in 1985 and employing the information on union membership of the partner (see Table 5 in appendix IV), the corresponding marginal effects are 0.17 (0.029) for firm size: 20 -199 employees, 0.39 (0.038) for firm size: 200 -1999 employees and 0.40 (0.057) for firm size: 2000 or more employees.[15] These findings are in accordance with estimates provided by Ernst et al. (1998) and Lorenz/Wagner (1991). Qualified white-collar workers have a significantly lower likelihood of being a union member for all years, as in the above cited studies. For 1985 (Table 5, specification A.I), for example, the marginal effect is -0.25 (0.08). [16] Furthermore, our estimates indicate that there is a positive impact of tenure on union membership in most years, while Ernst et al. (1998) do not find a positive tenure effect for their enlarged GSOEP-data set (male and female full-time and part time workers). Note that the probability of union membership is unaffected by schooling and occupational qualification, which is in line with most parameter estimates obtained by Ernst et al. (1998).

Great Britain

Employing the social custom proxies which use the information on union membership of the spouse or partner in our estimation procedure yields non-significant estimates for all years. Hence, we find no link between the union activities of spouses or partners and the respondent's likelihood of union membership. Therefore, social custom effects might not be an important determinant of trade union membership. This result for Great Britain contrasts with Ingham's (1995) findings and also with our conclusion for West Germany. However, Ingham's estimates are restricted to a single British university. The differential findings for the two countries might indicate that the effects of excludable union goods are more important in Great Britain than in West Germany. Hence, in Great Britain, the impact, for example, of grievance procedures or cheap access to pensions could be stronger than the effects from complying with the group norm of union membership. However, we are not able to solve this issue empirically, since our social custom proxy, based on the partner's union activity, is a mixture of information on the actual decision to join, which might be caused by the existence of union provided private goods, and on the belief in the collective principles of unions. Thus,

[15] The probability of the reference person with characteristic 'firm size less than 20 employees' and means of all other characteristics is 0.11.

[16] The probability of the reference person with characteristic 'ordinary blue-collar worker' and means of all other characteristics is 0.41.

it seems reasonable also for Great Britain to test whether the union membership decision is affected by the political belief of the relevant spouse or partner or by the blue-collar worker status of the father, as it is the case in West Germany. Our findings for the social custom variables are presented in Table 2: [17]

- Table 2 -

All estimated parameters of the interaction of 'partner prefers Labour' and lagged union density are positive and significant (specification A.I). The corresponding marginal effects are 0.003 (0.001) for 1991, 0.006 (0.001) for 1992, 0.004 (0.002) for 1993, 0.007 (0.002) for 1994 and 0.003 (0.001) for 1995. Hence, we find evidence for a positive impact of the individual commitment to unionism on the likelihood of union membership. This result supports the hypothesis of social custom effects in Great Britain for employees covered by a union-firm contract. The estimated parameters of the interaction of 'partner prefers Conservatives' and lagged union density are never significantly different from zero. Obviously, in Great Britain, there are no solidarity effects within the group of potential non-members, but an 'asymmetry of solidarity' (Naylor/Cripps 1993), as it has been modelled above (cf. equation (4)), and also been observed for Germany for 1989. The estimated parameters of lagged union density are positive and significant for the years 1991 and 1993. The corresponding marginal effects are both 0.005 (0.002). In terms of our theoretical model, the above results point to $\beta < 0$ and $\eta = 1$. For these two years, we thus find evidence for the hypotheses of conformity. For 1992, 1994, and 1995, however, the estimated parameters of lagged union density are not significantly different from zero. This could indicate sovereignty. Imposing sovereignty ($\eta = 0$; specification A.II), we find that the estimated parameters for the information on 'partner prefers Labour' ('partner prefers Conservatives') are always positive and significant (never significantly different from zero). Thus, for the years 1992, 1994, and 1995, the hypothesis of sovereignty cannot be rejected for Great Britain.

Exploiting the information whether the father was a blue-collar worker when the respondent was aged 14, interacted with lagged union density, yields positive and significant parameter estimates for the years 1991, 1993 and 1994 (specification B.I). The corresponding marginal effects are 0.002 (0.001), 0.004 (0.001) and 0.004 (0.001). Hence, once more, we detect evidence for the existence of social custom effects for these years. However, the estimated

[17] In Tables 11 - 18 in appendix IV complete results are given for all specifications. The R^2 of the reduced-form estimates of the wage equation vary between 0.37 and 0.50. The overall Likelihood-Ratio-statistics of the reduced-form estimates of the union membership equation are always significant at α=0.01.

coefficient for lagged union density is significant and positive only in 1991. Thus, we find no evidence for elitism. Instead, most estimates point to the existence of social custom effects which are independent of the level of union density, ignoring the borderline case of ß = 0. Imposing sovereignty (specification B.II) yields estimates, which are in line with our above interpretation.

The likelihood of union membership is mostly unaffected by wages. Only in 2 out of 20 sets of estimated parameters there is positive impact of wages on the union membership decision (see Table 14 in appendix IV). This result is in accordance with evidence based on firm data for Great Britain provided by Booth/Chatterji (1995).[18] Tenure has a significantly positive impact on the probability of union membership for all years, but our results provide no evidence for a significant relationship between the probability of union membership and potential experience, as obtained by Booth (1986). However, Booth (1986) cannot control for tenure and her results might pick up tenure effects as well. Male employees with a higher educational degree have a significantly lower union membership probability in most years. Furthermore, there is some evidence that the likelihood of union membership increases with firm size, which is in line with the results by Booth (1986).

Cross-Country Comparison

Comparing the results for Great Britain and West Germany, we find evidence for social custom effects in the determination of trade union membership in both countries. However, some of our findings are sensitive to the exact specification of the individual valuation of unions. Employing social customs proxies based on the partner's activity or her political beliefs yields different results for both countries: While the partner's union membership, interacted with lagged union density, is always significant for Germany, it is never so for Great Britain. Similarly, the interaction of 'partner prefers Labour (SPD)' and lagged union density is always significant in the membership equation for Great Britain, but not necessarily for West Germany. Employing social custom proxies based on the occupational status of the father produces similar results in both countries. This could imply that the early socialisation process within the family with respect to the affinity to unionism works similar in both

[18] Also in line with the results of Booth/Chatterji (1995), we find that union density has a significantly positive impact on hourly wages for most years (appendix IV). However, the estimated parameters for the latent endogenous variable 'union membership' are never significantly different from zero.

countries and is robust over time. Furthermore, in neither country we find evidence for elitism.

6. Conclusion

The central objective of this paper was to build a bridge between a variety of theoretical models of social custom based open shop trade unions and the empirical work on the determinants of union membership. We therefore develop a theoretical model which nests competing hypotheses on the nature of the social custom effects. Our findings for West Germany and Great Britain reveal that social custom effects indeed play a crucial role for the individual decision to join a union. While open shop trade unions in both countries may well face a problem of workers taking a free-ride on union services, our results provide evidence in support of the hypothesis that social custom effects restrict such opportunistic behaviour. Observing these social custom constraints both for West Germany and Great Britain - at least for covered workers - indicates the robustness of social custom effects with respect to significantly different systems of industrial relations. However, since different proxies for the individual valuation of reputation owing to membership are found to significantly influence the probability of union membership in the two countries, the nature of social custom effects might be different in Great Britain and West Germany.

Besides demonstrating the importance of social custom effects, our findings add evidence to the discussion whether union density influences the reputation or prestige from joining a union. For neither country we find evidence for elitism, but otherwise the results are not clear-cut. Using contemporaneous proxies for the individual evaluation of unionism we observe social custom effects based on conformist attitudes in West Germany and for Great Britain in single years. In contrast, exploiting social custom proxies relying on information on employment activities of the father, when the respondent was aged 14 or 15, point to the existence of social custom effects based on sovereign behaviour, especially for Germany. Since the latter estimates are presumably not plagued by any bias due to assortative mating, we conclude that our results are mostly in favour of social custom effects based on sovereign behaviour. This would imply that minimum densities do not represent a problem for (models of) open shop trade unions.

Though our work contains first estimates of the impact of social custom effects on trade union membership, based on two nationally representative household panel studies, there remain issues which have to be settled. Most crucial is the need for additional measures of social

custom. We employ social custom proxies based on the action and the political belief of the spouse or partner or on the former employment status of the father of our respondents. As Naylor/Cripps (1993) stress, peer pressure within the firm is also a major reason for joining a union. Hence, there is additional demand for social custom proxies of the workplace environment. Furthermore, Checchi/Corneo (1996) argue for aggregate indicators of social custom effects, since the formation of attitudes in the era of mass communication is also determined by norms which encompass the whole society. Thus, a full empirical explanation of reputation based trade union membership determinants has to consider a variety of social custom proxies. Moreover, it would be desirable to include pure private good incentives and to compare their impact on trade union membership with those of social custom effects.

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Table 1

Social Custom, Union Membership and Wages

West Germany

- union membership equation -

	1985	*1989*	*1993*
A. *Social custom variables using partner information*			
I. General reputation function			
(a) Partner union member * union density (-1)	0.017	0.016	0.015
	(0.003)	(0.003)	(0.003)
Union density (-1)	0.009	0.005	0.005
	(0.003)	(0.003)	(0.003)
(b) Partner prefers SPD * union density (-1)	0.005	0.004	0.001
	(0.002)	(0.002)	(0.002)
Partner prefers CDU/CSU * union density (-1)	-0.006	-0.005	-0.002
	(0.003)	(0.003)	(0.004)
Union density (-1)	0.010	0.006	0.007
	(0.003)	(0.003)	(0.003)
II. Imposed restriction: sovereignty			
(a) Partner union member	0.757	0.706	0.704
	(0.120)	(0.118)	(0.137)
(b) Partner prefers SPD	0.196	0.180	0.055
	(0.092)	(0.089)	(0.117)
Partner prefers CDU/CSU	-0.242	-0.100	-0.230
	(0.123)	(0.129)	(0.192)
N	1607	1456	1304
B. *Social custom variable using father information*			
I. General reputation function			
Father blue-collar worker * union density (-1)	0.012	0.013	0.007
	(0.003)	(0.003)	(0.003)
Union density (-1)	0.002	-0.005	-0.001
	(0.005)	(0.005)	(0.004)
II. Imposed restriction: sovereignty			
Father blue-collar worker	0.454	0.458	0.241
	(0.129)	(0.121)	(0.139)
N	734	796	775

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP).
Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.

Table 2

Social Custom, Union Membership and Wages

Great Britain

- union membership equation -

	1991	*1992*	*1993*	*1994*	*1995*
A. *Social custom variables using partner information*					
I. General reputation function					
Partner prefers Labour * union density (-1)	0.010	0.021	0.014	0.021	0.009
	(0.004)	(0.005)	(0.005)	(0.006)	(0.005)
Partner prefers Conserv. * union density (-1)	0.001	0.4×10^{-3}	-0.001	-0.001	-0.004
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Union density (-1)	0.020	0.009	0.016	0.010	0.008
	(0.007)	(0.008)	(0.008)	(0.007)	(0.007)
II. Imposed restriction: sovereignty					
Partner prefers Labour	0.446	0.842	0.569	0.726	0.451
	(0.190)	(0.194)	(0.213)	(0.227)	(0.215)
Partner prefers Conservatives	0.038	-0.004	-0.091	0.008	-0.237
	(0.186)	(0.175)	(0.211)	(0.232)	(0.251)
N	517	453	402	373	389
B. *Social custom variable using father information*					
I. General reputation function					
Father blue-collar worker*union density (-1)	0.007	0.004	0.014	0.014	0.004
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Union density (-1)	0.020	0.007	0.010	0.017	0.014
	(0.007)	(0.010)	(0.010)	(0.009)	(0.009)
II. Imposed restriction: sovereignty					
Father blue-collar worker	0.297	0.249	0.455	0.487	0.217
	(0.167)	(0.178)	(0.224)	(0.216)	(0.210)
N	467	381	324	290	285

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.

Appendices

I) Membership Demand Curve (MD)

The parameter γ is distributed uniformly on the interval [0, 1]. Since employees which are characterised by higher values of γ will join the union first, the value of γ for the marginal member k is given by $\gamma^k = 1 - m$, for $m \in [0, 1]$. Substituting in the reputation function (1) yields:

$$(A.1)\quad r^k = R - m^{\eta+1} + (1-\beta)m^{\eta}$$

The expected utility gain of joining a union is equal to zero for the marginal member and given by $\tilde{Z} = Z(\gamma^k)$, that is equation (5) of the main text, or by:

$$(A.2)\quad \tilde{Z} = N(w)\left\{u(w(1-g)) - u(w) + (1-\alpha)r^k\right\} + \alpha r^k$$

For $\tilde{Z} = 0$ to hold, the expression in braces has to be negative. Differentiating $\tilde{Z}$ with respect to the wage w, where for convenience, we employ N instead of N(w), yields:

$$(A.3)\quad \tilde{Z}_w = N_w\left\{u(w(1-g)) - u(w) + (1-\alpha)r^k\right\} + N\left[u'(w(1-g))(1-g) - u'(w)\right]$$

If the utility function $u(\cdot)$ is sufficiently concave such that $u'(w(1 - g)) - u'(w)/(1 - g) > 0$, that is, if the percentage of income that is paid as membership fee is not too high, or if the fee is constant, $\tilde{Z}_w > 0$. Differentiating $\tilde{Z}$ with respect to the density level m yields:

$$(A.4)\quad \tilde{Z}_m = -\left(N(1-\alpha) + \alpha\right)m^{\eta-1}\left[(1+\eta)m - (1-\beta)\eta\right]$$

For $\beta = 1$ or $\eta = 0$, $\tilde{Z}$ declines with membership. Thus, the MD of a union of elitists or sovereign employees has a positive slope. For conformists, $\beta \leq 0$ holds and the term in square brackets in (A.4) is positive for any density above the minimum level, $m > s \equiv \eta(1 - \beta)/(1 + \eta)$.

II) The Wage Bargaining Curve (WB)

The WB results from the maximisation of the asymmetric Nash-product, where the respective weights ρ and $(1 - \rho)$ are given by the union's, respectively, firm's bargaining power, $0 \leq \rho \leq 1$. The firm's gain from bargaining is defined by its profits Π. The union maximises the (expected) utility of its median member h. The median member is related to the marginal member k in the following way:

$$(A.5)\quad \gamma^h = (1 + \gamma^k)/2 = 1 - m/2$$

Hence, for $r^h = R - 0.5m^{\eta+1} + (1-\beta)m^{\eta}$, union utility Ω is given by:

$$(A.6)\ \Omega = N\left[u(w(1-g)) + r^h\right] + (1-N)\left[u(B) + \alpha r^h\right]$$

In the case of no agreement, the median employee obtains unemployment benefits B and can retain the union status. The union's threat-point is then given by $u(B) + \alpha r^h$. Maximisation of the weighted Nash-product with respect to the wage yields equation (6) of the main text. For $\phi = u(w(1 - g)) - u(B) + (1 - \alpha) r^h$, the second-order condition requires $V_w < 0$, and hence:

$$(A.7)\ V_w = \frac{Nu''(w(1-g))(1-g)^2}{\phi} - \frac{N\left[u'(w(1-g))(1-g)\right]^2}{\phi^2}$$

$$+\frac{N_w u'(w(1-g))(1-g)}{\phi} - \frac{1-\rho}{\rho}N\frac{2N_w\Pi + N^2}{\Pi^2} + N_{ww}$$

Sufficient conditions for $V_w < 0$ to hold are that the labour demand curve is weakly concave ($N_{ww} \leq 0$), and that the sum of twice the labour demand elasticity and the ratio of labour cost to profits is positive, since $2\,N_w/\Pi + (N/\Pi)^2 = (2\varepsilon + wN/\Pi)N/w$, where $\varepsilon = N_w\, w/N$. For $V_w < 0$, the sign of V_m determines the slope of the WB in the wage-density space.

$$(A.8)\ V_m = \frac{Nu'(w(1-g))(1-g)(1-\alpha)}{\phi^2} m^{\eta-1}\left[(1+\eta)\frac{m}{2} - (1-\beta)\eta\right]$$

For a union of elitist or sovereign members, $V_m > 0$, such that the WB is upward sloping (see figure 1). For conformists, characterised by $\beta \leq 0$ and $\eta > 0$, two cases can be distinguished. If $m < 2s$, the WB will be downward sloping, since $V_m < 0$. If, however, $m > 2s$, $V_m > 0$ will hold. Since stability requires that the WB is flatter than the MD, figure 2 depicts the equilibrium outcome.

III) Stability:

In a situation, in which a given wage-density combination lies neither on the WB nor on the MD, employees can gain utility by either joining or leaving the union. If they do so, union density will adjust until an outcome on the MD is reached. If this outcome is not consistent with a bargaining result, the wage will adjust and, hence, the density will change, and so forth. This process will continue until an intersection of the two curves is reached. Since only outcomes on the positively sloped arm of the MD need to be considered, the system defined by the two equations $\tilde{Z}$ and V will be stable if the slope of the MD is greater in absolute value than the slope of the WB. Let $\varepsilon_m = -\ \tilde{Z}_m\, m/\tilde{Z}_w\, w > 0$ and $\varepsilon_w = -\ V_m\, m/V_w\, w$. Stability of the system will

then be warranted if $\varepsilon_m/|\varepsilon_w| > 1$, which implies $D = \tilde{Z}_w V_m - V_w \tilde{Z}_m < 0$. To see this, observe that for a positively sloped WB, $V_m > 0$ and $\varepsilon_w > 0$ hold and this implies $w\tilde{Z}_w V_w(\varepsilon_m - \varepsilon_w) = m(\tilde{Z}_w V_m - V_w \tilde{Z}_m)$. Since $V_w < 0$ and $\tilde{Z}_w > 0$ (cf. A.3 and A.7) holds, stability implies $D < 0$. Moreover, $D < 0$ is also true for a negatively sloped WB since $V_m < 0$ and $\tilde{Z}_m < 0$.

IV) Union Membership and Wage Equations for West Germany and Great Britain

Table 3a

Variable Descriptions and Means: West Germany

- subsample with valid partner information -

Variable	*Description*	*1985*	*1989*	*1993*
ln hourly wage	Natural log of hourly wage	2.81	2.96	3.16
Union member	Dummy (1; 0 else)	0.38	0.37	0.35
Partner member * union density (-1)	Dummy (1; 0 else) * industry-specific union density (-1)	4.14	4.03	4.59
Partner pref. SPD * union density (-1)	Dummy: Partner prefers Social Democrats (SPD) (1; 0 else) * industry-specific union density (-1); (*Partner prefers other party or no revealed preferences*)	10.04	9.37	7.58
Partner pref. CDU/CSU *union density (-1)	Dummy: Partner prefers Christian Democrats (CDU) or Christian Social Union (CSU) (1; 0 else) * industry-specific union density (-1); (*Partner prefers other party or no revealed preferences*)	5.19	4.13	2.92
Union density (-1)	Industry-specific union density in percentage points lagged by one period	37.86	37.57	40.92
Qualified blue-collar worker	Dummy (1; 0 else); *(Ordinary blue-collar worker)*	0.39	0.34	0.36
Ordinary white-collar worker	Dummy (1; 0 else); *(Ordinary blue-collar worker)*	0.04	0.05	0.05
Qualified white-collar worker	Dummy (1; 0 else); *(Ordinary blue-collar worker)*	0.23	0.25	0.26
Tenure (years)	Measured in years	11.31	11.64	11.78
Experience (years)	Potential experience measured in years	23.23	23.03	22.40
Foreigner	Dummy (1; 0 else)	0.40	0.39	0.37
Schooling level: 10th class	Dummy: 10th class grade (1; 0 else) ; (*8th class grade, no degree*)	0.80	0.80	0.79
Schooling level: univ. entry qual.	Dummy: university entry qualification (1; 0 else) ; (*8th class grade, no degree*)	0.08	0.09	0.11
Occupat. qual.: apprenticeship	Dummy (1; 0 else); (*no degree*)	0.66	0.66	0.67
Occupat. qual.: university degree	Dummy (1; 0 else); (*no degree*)	0.05	0.05	0.06
Firm size: 20 - 199 employees	Dummy (1; 0 else); (*less than 20 employees*)	0.33	0.27	0.26
Firm size: 200 - 1999 employees	Dummy (1; 0 else); (*less than 20 employees*)	0.25	0.27	0.29
Firm size: 2000 or more employees	Dummy (1; 0 else); (*less than 20 employees*)	0.28	0.30	0.29
Information used to construct social custom proxies				
Partner union member	Dummy (1; 0 else)	0.11	0.11	0.11
Partner prefers SPD	Dummy (1; 0 else)	0.27	0.25	0.18
Partner prefers CDU/CSU	Dummy (1; 0 else)	0.15	0.12	0.08
N	Number of observations	1607	1456	1304

Notes: Data source: German Socio Economic Panel (GSOEP).
For dummy variables, the base category is given in parentheses.

Table 3b

Variable Descriptions and Means: West Germany

- subsample with valid father information -

Variable	*Description*	*1985*	*1989*	*1993*
ln hourly wage	Natural log of hourly wage	2.85	3.00	3.21
Union member	Dummy (1; 0 else)	0.34	0.34	0.32
Father blue-collar * union density (-1)	Dummy (1; 0 else) * industry-specific union density (-1)	24.34	24.63	26.93
Union density (-1)	Industry-specific union density in percentage points lagged by one period	36.46	37.52	40.97
Qualified blue-collar worker	Dummy (1; 0 else); *(Ordinary blue-collar worker)*	0.39	0.36	0.38
Ordinary white-collar worker	Dummy (1; 0 else); *(Ordinary blue-collar worker)*	0.06	0.06	0.05
Qualified white-collar worker	Dummy (1; 0 else); *(Ordinary blue-collar worker)*	0.38	0.37	0.36
Tenure (years)	Measured in years	11.68	10.94	10.84
Experience (years)	Potential experience measured in years	21.29	20.48	20.05
Foreigner	Dummy (1; 0 else)	0.06	0.12	0.15
Schooling level: 10th class	Dummy: 10th class grade (1; 0 else) ; (*8th class grade, no degree*)	0.85	0.86	0.80
Schooling level: univ. entry qual.	Dummy: university entry qualification (1; 0 else) ; (*8th class grade, no degree*)	0.13	0.15	0.16
Occupat. qual.: apprenticeship	Dummy (1; 0 else); (*no degree*)	0.81	0.79	0.78
Occupat. qual.: university degree	Dummy (1; 0 else); (*no degree*)	0.07	0.07	0.07
Firm size: 20 - 199 employees	Dummy (1; 0 else); (*less than 20 employees*)	0.32	0.27	0.25
Firm size: 200 - 1999 employees	Dummy (1; 0 else); (*less than 20 employees*)	0.24	0.25	0.27
Firm size: 2000 or more employees	Dummy (1; 0 else); (*less than 20 employees*)	0.28	0.32	0.32
Information used to construct social custom proxy				
Father blue-collar worker	Dummy (1; 0 else)	0.64	0.64	0.65
N	Number of observations	734	796	775

Notes: Data source: German Socio Economic Panel (GSOEP).
For dummy variables, the base category is given in parentheses.

Table 4a

Variable Descriptions and Means: Great Britain

- subsample with valid partner information -

Variable	*Description*	*1991*	*1992*	*1993*	*1994*	*1995*
ln hourly wage	Natural log of hourly wage	1.87	1.92	1.96	2.01	2.01
Union member	Dummy: Member of recognised union or staff association (1; 0 else)	0.76	0.73	0.70	0.70	0.73
Partner pref. Labour *union density (-1)	Dummy: Partner prefers Labour (1; 0 else) * industry-specific union density (-1); (*Partner prefers other party or no revealed preferences*)	13.88	14.62	13.07	13.35	16.12
Partner pref. Conserv. *union density (-1)	Dummy: Partner prefers Conservatives (1; 0 else) * industry-specific union density (-1); (*Partner prefers other party or no revealed preferences*)	11.31	14.13	11.26	8.46	8.63
Union density (-1)	Industry-specific union density in percentage points lagged by one period	43.96	43.33	39.83	39.19	41.35
Ethnic	Dummy: non-white ethnic group (1; 0 else)	0.03	0.02	0.03	0.03	0.02
Manager	Dummy (1; 0 else); (*not manager or foreman)*	0.16	0.17	0.18	0.20	0.19
Foreman	Dummy (1; 0 else); (*not manager or foreman)*	0.20	0.21	0.23	0.20	0.18
Education: higher degree	Dummy: Highest educational qualification: higher degree or first degree (1; 0 else); (*no educational qualification*)	0.06	0.06	0.07	0.07	0.06
Education: other higher qualifications	Dummy (1; 0 else); (*no educational qualification*)	0.22	0.23	0.25	0.26	0.26
Education: A-levels	Dummy: GCE A-levels (1; 0 else); (*no educational qualification*)	0.16	0.15	0.16	0.16	0.17
Education: O-levels	Dummy: GCE O-levels or equivalent (1; 0 else); (*no educational qualification*)	0.21	0.22	0.22	0.22	0.22
Education: Apprenticeship	Dummy (1; 0 else); (*no educational qualification*)	0.10	0.10	0.09	0.09	0.10
Tenure (years)	Measured in years	7.21	6.46	7.15	7.45	7.01
Experience (years)	Potential experience measured in years	22.79	22.65	22.48	23.13	22.74
Firm size: 25 - 49 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.10	0.11	0.11	0.09	0.11
Firm size: 50 - 99 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.13	0.12	0.13	0.12	0.14
Firm size: 100 - 199 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.14	0.14	0.16	0.15	0.12
Firm size: 200 - 499 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.23	0.23	0.21	0.24	0.25
Firm size: 500 - 999 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.11	0.11	0.12	0.13	0.14
Firm size: 1000 or more employees	Dummy (1; 0 else); (*less than 25 employees*)	0.18	0.16	0.15	0.13	0.12
Information used to construct social custom proxies						
Partner prefers Labour	Dummy (1; 0 else)	0.30	0.33	0.33	0.35	0.40
Partner prefers Conservatives	Dummy (1; 0 else)	0.26	0.32	0.29	0.21	0.21
N	Number of observations	517	453	402	373	389

Notes: Data source: British Household Panel Survey (BHPS).
For dummy variables, the base category is given in parentheses.

Table 4b

Variable Descriptions and Means: Great Britain

- subsample with valid father information -

Variable	*Description*	*1991*	*1992*	*1993*	*1994*	*1995*
ln hourly wage	Natural log of hourly wage	1.88	1.93	1.97	2.03	2.05
Union member	Dummy: Member of recognised union or staff association (1; 0 else)	0.75	0.73	0.72	0.72	0.75
Father blue-collar w. *union density (-1)	Dummy: Father blue-collar w. (1; 0 else) * industry-specific union density (-1);	28.70	28.30	25.50	25.70	26.15
Union density (-1)	Industry-specific union density in percentage points lagged by one period	44.18	32.22	40.51	39.62	41.39
Ethnic	Dummy: non-white ethnic group (1; 0 else)	0.03	0.03	0.02	0.02	0.02
Manager	Dummy (1; 0 else); (*not manager or foreman)*	0.17	0.18	0.19	0.23	0.21
Foreman	Dummy (1; 0 else); (*not manager or foreman)*	0.20	0.22	0.23	0.19	0.18
Education: higher degree	Dummy: Highest educational qualification: higher degree or first degree (1; 0 else); (*no educational qualification*)	0.06	0.06	0.08	0.08	0.07
Education: other higher qualifications	Dummy (1; 0 else); (*no educational qualification*)	0.22	0.24	0.26	0.28	0.28
Education: A-levels	Dummy: GCE A-levels (1; 0 else); (*no educational qualification*)	0.16	0.15	0.16	0.14	0.14
Education: O-levels	Dummy: GCE O-levels or equivalent (1; 0 else); (*no educational qualification*)	0.21	0.22	0.20	0.20	0.21
Education: Apprenticeship	Dummy (1; 0 else); (*no educational qualification*)	0.10	0.10	0.08	0.09	0.11
Tenure (years)	Measured in years	7.07	6.41	7.35	7.73	7.55
Experience (years)	Potential experience measured in years	22.72	22.75	23.31	24.30	25.12
Firm size: 25 - 49 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.10	0.11	0.11	0.09	0.09
Firm size: 50 - 99 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.12	0.12	0.12	0.12	0.15
Firm size: 100 - 199 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.14	0.14	0.16	0.16	0.12
Firm size: 200 - 499 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.22	0.23	0.23	0.27	0.26
Firm size: 500 - 999 employees	Dummy (1; 0 else); (*less than 25 employees*)	0.11	0.11	0.11	0.11	0.14
Firm size: 1000 or more employees	Dummy (1; 0 else); (*less than 25 employees*)	0.19	0.16	0.15	0.13	0.14
Information used to construct social custom proxy						
Father blue-collar worker	Dummy (1; 0 else)	0.65	0.65	0.62	0.63	0.63
N	Number of observations	467	381	324	290	285

Notes: Data source: British Household Panel Survey (BHPS).
For dummy variables, the base category is given in parentheses.

Table 5

Social Custom, Union Membership and Wages

West Germany

- union membership equation employing partner information: general reputation function-

	1985		*1989*		*1993*	
Specification	*a*	*b*	*a*	*b*	*a*	*b*
Constant	-1.940	-2.275	0.075	-.102	-3.847	-3.602
	(1.875)	(1.903)	(2.084)	(2.084)	(1.988)	(2.005)
Social custom variables						
Partner member * union density (-1)	0.017	--	0.016	--	0.015	--
	(0.003)		(0.003)		(0.003)	
Partner pref. SPD * union density (-1)	--	0.005	--	0.004	--	0.001
		(0.002)		(0.002)		(0.002)
Partner pref. CDU/CSU * union density (-1)	--	-0.006	--	-0.005	--	-0.002
		(0.003)		(0.003)		(0.004)
Union density (-1)	0.009	0.010	0.005	0.006	0.005	0.007
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Individual characteristics						
Qualified blue-collar worker	0.090	0.058	-0.024	-0.038	-0.036	-0.023
	(0.109)	(0.110)	(0.111)	(0.110)	(0.125)	(0.127)
Ordinary white-collar worker	-0.314	-0.418	-0.270	-0.305	-0.576	-0.585
	(0.225)	(0.228)	(0.212)	(0.211)	(0.206)	(0.211)
Qualified white-collar worker	-0.706	-0.756	-0.595	-0.630	-1.145	-1.143
	(0.261)	(0.264)	(0.251)	(0.249)	(0.257)	(0.263)
Tenure (years)	0.013	0.012	0.005	0.004	0.015	0.014
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)
Experience (years)	-0.002	-0.003	0.004	0.005	-0.004	-0.002
	(0.006)	(0.006)	(0.005)	(0.005)	(0.600)	(0.006)
Foreigner	0.0001	-0.007	-0.050	-0.062	0.018	-0.002
	(0.093)	(0.095)	(0.099)	(0.099)	(0.107)	(0.110)
Schooling level: 10th class	-0.073	-0.073	-0.014	-0.019	-0.030	-0.034
	(0.118)	(0.118)	(0.133)	(0.131)	(0.143)	(0.147)
Schooling level: univ. entry qual.	-0.266	-0.274	-0.053	-0.084	-0.158	-0.133
	(0.272)	(0.273)	(0.265)	(0.264)	(0.267)	(0.272)
Occupat. qual.: apprenticeship	0.066	0.071	-0.005	-0.020	0.026	0.044
	(0.100)	(0.100)	(0.106)	(0.105)	(0.123)	(0.125)
Occupat. qual.: university degree	-0.304	-0.355	-0.311	-0.354	-0.377	-0.359
	(0.284)	(0.282)	(0.287)	(0.285)	(0.286)	(0.294)
Firm characteristics						
Firm size: 20 - 199 employees	0.655	0.673	0.760	0.753	0.704	0.725
	(0.134)	(0.134)	(0.161)	(0.161)	(0.186)	(0.188)
Firm size: 200 - 1999 employees	1.233	1.248	1.140	1.137	1.052	1.057
	(0.155)	(0.156)	(0.189)	(0.189)	(0.206)	(0.208)
Firm size: 2000 or more employees	1.283	1.278	1.588	1.597	1.308	1.321
	(0.206)	(0.206)	(0.232)	(0.232)	(0.238)	(0.240)
Endogenous variable						
ln hourly wage	0.043	0.185	-0.676	-0.595	0.691	0.590
	(0.800)	(0.810)	(0.841)	(0.840)	(0.746)	(0.753)
N	1607		1456		1304	

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP). For corresponding wage equation see Table 8.
Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven regional dummies.

Table 6

Social Custom, Union Membership and Wages

West Germany

- union membership equation employing partner information: imposed restriction sovereignty -

	1985		*1989*		*1993*	
Specification	*a*	*b*	*a*	*b*	*a*	*b*
Constant	-2.912	-3.386	-0.649	-0.346	-5.553	-5.127
	(2.051)	(2.127)	(2.489)	(2.476)	(2.579)	(2.628)
Social custom variables						
Partner union member	0.757	--	0.706	--	0.704	--
	(0.120)		(0.118)		(0.137)	
Partner prefers SPD	--	0.196	--	0.181	--	0.055
		(0.092)		(0.089)		(0.117)
Partner prefers CDU/CSU	--	-0.242	--	-0.010	--	-0.230
		(0.123)		(0.129)		(0.192)
Individual characteristics						
Qualified blue-collar worker	0.082	0.040	-0.019	-0.036	-0.059	-0.041
	(0.116)	(0.115)	(0.114)	(0.113)	(0.138)	(0.142)
Ordinary white-collar worker	-0.397	-0.521	-0.335	-0.348	-0.638	-0.648
	(0.233)	(0.244)	(0.226)	(0.224)	(0.223)	(0.230)
Qualified white-collar worker	-0.851	-0.941	-0.683	-0.707	-1.339	-1.339
	(0.283)	(0.296)	(0.293)	(0.291)	(0.323)	(0.335)
Tenure (years)	0.012	0.011	0.004	0.003	0.012	0.011
	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)
Experience (years)	-0.004	-0.005	0.003	0.004	-0.005	-0.003
	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)	(0.007)
Foreigner	-0.001	-0.010	-0.044	-0.053	0.035	0.011
	(0.095)	(0.099)	(0.100)	(0.100)	(0.114)	(0.118)
Schooling level: 10th class	-0.078	-0.074	-0.038	-0.039	-0.077	-0.060
	(0.120)	(0.123)	(0.132)	(0.131)	(0.152)	(0.158)
Schooling level: univ. entry qual.	-0.380	-0.372	-0.121	-0.112	-0.307	-0.248
	(0.279)	(0.286)	(0.279)	(0.279)	(0.290)	(0.298)
Occupat. qual.: apprenticeship	0.029	0.039	-0.030	-0.038	-0.042	-0.015
	(0.102)	(0.104)	(0.108)	(0.107)	(0.136)	(0.140)
Occupat. qual.: university degree	-0.411	-0.459	-0.388	-0.381	-0.523	-0.493
	(0.293)	(0.297)	(0.296)	(0.293)	(0.313)	(0.324)
Firm characteristics						
Firm size: 20 - 199 employees	0.601	0.611	0.702	0.710	0.581	0.584
	(0.136)	(0.139)	(0.170)	(0.169)	(0.206)	(0.209)
Firm size: 200 - 1999 employees	1.137	1.142	1.036	1.060	0.835	0.833
	(0.160)	(0.164)	(0.208)	(0.208)	(0.237)	(0.240)
Firm size: 2000 or more employees	1.154	1.123	1.489	1.532	1.066	1.066
	(0.216)	(0.221)	(0.266)	(0.263)	(0.281)	(0.284)
Endogenous variable						
ln hourly wage	0.586	0.801	-0.300	-0.393	1.424	1.292
	(0.856)	(0.892)	(0.987)	(0.983)	(0.958)	(0.976)
N	1607		1456		1304	

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP). For corresponding wage equation see Table 9.
Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven regional dummies.

Table 7

Social Custom, Union Membership and Wages

West Germany

- union membership equation employing father information -

(*I: general reputation function / II: imposed restriction: sovereignty*)

	1985		*1989*		*1993*	
Specification	*I*	*II*	*I*	*II*	*I*	*II*
Constant	-1.079	-0.268	-0.146	-0.051	-5.07	-5.812
	(2.285)	(2.506)	(2.737)	(3.250)	(2.493)	(3.278)
Social custom variables						
Father blue-collar * union density (-1)	0.012	--	0.013	--	0.007	--
	(0.003)		(0.003)		(0.003)	
Union density (-1)	0.002	--	-0.005	--	-0.001	--
	(0.005)		(0.005)		(0.004)	
Father blue-collar worker	--	0.454	--	0.458	--	0.241
		(0.129)		(0.121)		(0.139)
Individual characteristics						
Qualified blue-collar worker	0.182	0.271	-0.225	-0.184	-0.074	-0.077
	(0.200)	(0.209)	(0.156)	(0.161)	(0.172)	(0.189)
Ordinary white-collar worker	-0.177	-0.057	-0.298	-0.297	-0.546	-0.611
	(0.345)	(0.368)	(0.320)	(0.351)	(0.279)	(0.314)
Qualified white-collar worker	-0.603	-0.420	-0.743	-0.690	-1.410	-1.511
	(0.383)	(0.429)	(0.328)	(0.386)	(0.322)	(0.414)
Tenure (years)	0.006	0.008	0.012	0.012	0.022	0.020
	(0.008)	(0.009)	(0.008)	(0.008)	(0.009)	(0.009)
Experience (years)	-0.009	-0.007	-0.006	-0.006	-0.011	-0.012
	(0.010)	(0.010)	(0.009)	(0.010)	(0.009)	(0.010)
Foreigner	0.053	0.045	-0.081	-0.095	-0.038	-0.034
	(0.250)	(0.253)	(0.181)	(0.182)	(0.188)	(0.196)
Schooling level: 10th class	0.227	0.200	0.444	0.421	0.143	0.117
	(0.449)	(0.456)	(0.339)	(0.345)	(0.297)	(0.309)
Schooling level: univ. entry qual.	0.195	0.239	0.400	0.352	0.098	0.022
	(0.555)	(0.567)	(0.444)	(0.473)	(0.376)	(0.393)
Occupat. qual.: apprenticeship	-0.025	0.001	-0.161	-0.156	0.147	0.119
	(0.200)	(0.206)	(0.171)	(0.176)	(0.186)	(0.200)
Occupat. qual.: university degree	-0.777	-0.725	-0.389	-0.354	-0.092	-0.183
	(0.426)	(0.439)	(0.391)	(0.415)	(0.373)	(0.405)
Firm characteristics						
Firm size: 20 - 199 employees	0.497	0.515	0.715	0.709	0.845	0.788
	(0.201)	(0.208)	(0.197)	(0.205)	(0.243)	(0.261)
Firm size: 200 - 1999 employees	1.251	1.287	1.180	1.176	1.252	1.156
	(0.242)	(0.253)	(0.238)	(0.259)	(0.273)	(0.305)
Firm size: 2000 or more employees	1.302	1.375	1.630	1.664	1.397	1.313
	(0.282)	(0.302)	(0.286)	(0.322)	(0.305)	(0.347)
Endogenous variable						
ln hourly wage	-0.255	-0.619	-0.542	-0.595	1.050	1.351
	(1.035)	(1.116)	(1.120)	(1.308)	(0.920)	(1.195)
N	734		796		775	

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP). For corresponding wage equation see Table 10.
Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven regional dummies.

Table 8
Social Custom, Union Membership and Wages
West Germany

- wage equation -

	1985		*1989*		*1993*	
Specification	*a*	*b*	*a*	*b*	*a*	*b*
Constant	1.985	2.157	2.309	2.290	2.034	2.593
	(0.144)	(0.172)	(0.124)	(0.137)	(0.139)	(0.686)
Union density (-1)	0.002	0.001	0.3×10^{-3}	0.4×10^{-3}	0.001	0.001
	(0.001)	(0.001)	(0.9×10^{-3})	(0.9×10^{-3})	(0.001)	(0.002)
Individual characteristics						
Qualified blue-collar worker	0.070	0.064	0.064	0.063	0.079	0.068
	(0.017)	(0.017)	(0.016)	(0.016)	(0.017)	(0.039)
Ordinary white-collar worker	0.138	0.166	0.145	0.139	0.053	0.208
	(0.034)	(0.038)	(0.032)	(0.037)	(0.036)	(0.186)
Qualified white-collar worker	0.273	0.325	0.287	0.275	0.274	0.536
	(0.030)	(0.040)	(0.034)	(0.051)	(0.037)	(0.295)
Tenure (years)	0.020	0.015	0.024	0.026	0.018	-0.034
	(0.009)	(0.010)	(0.009)	(0.010)	(0.011)	(0.061)
Tenure ^2 (years)	-0.002	-0.001	-0.002	-0.002	-0.002	0.004
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.006)
Tenure ^3 (years)	0.5×10^{-4}	0.2×10^{-4}	0.9×10^{-4}	0.1×10^{-3}	0.8×10^{-4}	0.1×10^{-3}
	(0.4×10^{-4})	(0.5×10^{-4})	(0.5×10^{-4})	(0.6×10^{-4})	(0.5×10^{-4})	(0.2×10^{-3})
Tenure ^4 (years)	-0.5×10^{-6}	-0.2×10^{-6}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}
	(0.7×10^{-6})	(0.7×10^{-6})	(0.7×10^{-6})	(0.8×10^{-6})	(0.7×10^{-6})	(0.3×10^{-5})
Experience (years)	0.042	0.034	0.043	0.041	0.100	0.100
	(0.028)	(0.030)	(0.025)	(0.026)	(0.027)	(0.063)
Experience ^2 (years)	-0.002	-0.001	-0.009	-0.003	-0.006	-0.006
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)
Experience ^3 (years)	0.3×10^{-4}	0.2×10^{-4}	0.1×10^{-3}	0.9×10^{-4}	0.1×10^{-3}	0.1×10^{-3}
	(0.7×10^{-4})	(0.7×10^{-4})	(0.6×10^{-4})	(0.7×10^{-4})	(0.7×10^{-4})	(0.2×10^{-3})
Experience ^4 (years)	-0.3×10^{-6}	-0.1×10^{-6}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}
	(0.8×10^{-6})	(0.8×10^{-6})	(0.7×10^{-6})	(0.8×10^{-6})	(0.8×10^{-6})	(0.2×10^{-5})
Foreigner	-0.016	-0.018	-0.032	-0.032	-0.015	-0.015
	(0.017)	(0.017)	(0.016)	(0.016)	(0.017)	(0.037)
Schooling level: 10th class	-0.001	0.003	0.020	0.019	0.014	0.033
	(0.022)	(0.023)	(0.022)	(0.022)	(0.024)	(0.055)
Schooling level: univ. entry qual.	0.187	0.202	0.182	0.180	0.149	0.168
	(0.039)	(0.041)	(0.035)	(0.036)	(0.036)	(0.085)
Occupat. qual.: apprenticeship	0.040	0.035	0.037	0.036	0.071	0.059
	(0.017)	(0.018)	(0.017)	(0.017)	(0.018)	(0.042)
Occupat. qual.: university degree	0.185	0.203	0.158	0.152	0.171	0.253
	(0.040)	(0.043)	(0.040)	(0.044)	(0.038)	(0.125)
Firm characteristics						
Firm size: 20 - 199 employees	0.062	0.017	0.075	0.085	0.142	-0.061
	(0.026)	(0.035)	(0.029)	(0.043)	(0.030)	(0.231)
Firm size: 200 - 1999 employees	0.122	0.038	0.120	0.135	0.189	-0.092
	(0.040)	(0.057)	(0.038)	(0.060)	(0.038)	(0.317)
Firm size: 2000 or more employees	0.213	0.125	0.173	0.195	0.247	-0.117
	(0.041)	(0.059)	(0.051)	(0.084)	(0.046)	(0.408)
Endogenous variable						
Latent union membership	-0.025	0.045	0.029	0.015	-0.015	0.247
	(0.028)	(0.044)	(0.031)	(0.055)	(0.029)	(0.292)
N	1607		1456		1304	

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP).
For corresponding union membership equation see Table 5. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, seven regional dummies.

Table 9
Social Custom, Union Membership and Wages
West Germany
- wage equation -

	1985		*1989*		*1993*	
Specification	*a*	*b*	*a*	*b*	*a*	*b*
Constant	1.961	2.162	2.277	2.307	2.021	2.441
	(0.142)	(0.179)	(0.122)	(0.146)	(0.138)	(0.377)
Union density (-1)	0.002	0.001	0.4×10^{-3}	0.3×10^{-3}	0.001	0.001
	(0.001)	(0.001)	(0.9×10^{-3})	(0.9×10^{-3})	(0.9×10^{-3})	(0.002)
Individual characteristics						
Qualified blue-collar worker	0.071	0.063	0.062	0.064	0.079	0.071
	(0.016)	(0.018)	(0.016)	(0.017)	(0.017)	(0.031)
Ordinary white-collar worker	0.134	0.167	0.135	0.144	0.050	0.166
	(0.034)	(0.040)	(0.032)	(0.040)	(0.035)	(0.100)
Qualified white-collar worker	0.264	0.327	0.266	0.285	0.269	0.465
	(0.030)	(0.042)	(0.031)	(0.060)	(0.036)	(0.145)
Tenure (years)	0.021	0.015	0.027	0.024	0.019	-0.020
	(0.009)	(0.010)	(0.009)	(0.011)	(0.011)	(0.032)
Tenure ^2 (years)	-0.002	-0.001	-0.003	-0.002	-0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)
Tenure ^3 (years)	0.5×10^{-4}	0.2×10^{-4}	0.1×10^{-3}	0.9×10^{-4}	0.8×10^{-4}	0.7×10^{-4}
	(0.4×10^{-4})	(0.5×10^{-4})	(0.5×10^{-4})	(0.6×10^{-4})	(0.5×10^{-4})	(0.1×10^{-3})
Tenure ^4 (years)	-0.6×10^{-6}	-0.2×10^{-6}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}	-0.8×10^{-6}
	(0.7×10^{-6})	(0.8×10^{-6})	(0.7×10^{-6})	(0.9×10^{-6})	(0.7×10^{-6})	(0.2×10^{-5})
Experience (years)	0.043	0.034	0.040	0.043	0.100	0.099
	(0.028)	(0.030)	(0.025)	(0.026)	(0.027)	(0.5-01)
Experience ^2 (years)	-0.002	-0.001	-0.003	-0.003	-0.006	-0.006
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Experience ^3 (years)	0.3×10^{-4}	0.2×10^{-4}	0.9×10^{-4}	0.9×10^{-4}	0.1×10^{-3}	0.1×10^{-3}
	(0.7×10^{-4})	(0.7×10^{-4})	(0.6×10^{-4})	(0.7×10^{-4})	(0.7×10^{-4})	(0.1×10^{-3})
Experience ^4 (years)	-0.3×10^{-6}	-0.1×10^{-6}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}	-0.1×10^{-5}
	(0.8×10^{-6})	(0.8×10^{-6})	(0.7×10^{-6})	(0.8×10^{-6})	(0.7×10^{-6})	(0.1×10^{-5})
Foreigner	-0.016	-0.018	-0.032	-0.032	-0.015	-0.020
	(0.017)	(0.018)	(0.016)	(0.016)	(0.016)	(0.030)
Schooling level: 10th class	-0.002	0.003	0.019	0.020	0.014	0.030
	(0.022)	(0.023)	(0.022)	(0.022)	(0.023)	(0.043)
Schooling level: univ. entry qual.	0.185	0.203	0.178	0.182	0.148	0.162
	(0.039)	(0.042)	(0.035)	(0.036)	(0.036)	(0.067)
Occupat. qual.: apprenticeship	0.041	0.034	0.036	0.037	0.071	0.061
	(0.017)	(0.019)	(0.016)	(0.017)	(0.018)	(0.033)
Occupat. qual.: university degree	0.182	0.203	0.147	0.158	0.169	0.232
	(0.040)	(0.044)	(0.039)	(0.048)	(0.038)	(0.082)
Firm characteristics						
Firm size: 20 - 199 employees	0.069	0.016	0.092	0.076	0.146	-0.006
	(0.026)	(0.037)	(0.028)	(0.050)	(0.030)	(0.115)
Firm size: 200 - 1999 employees	0.135	0.035	0.145	0.122	0.194	-0.016
	(0.039)	(0.060)	(0.035)	(0.071)	(0.037)	(0.155)
Firm size: 2000 or more employees	0.227	0.123	0.209	0.176	0.254	-0.019
	(0.040)	(0.063)	(0.046)	(0.100)	(0.046)	(0.198)
Endogenous variable						
Latent union membership	-0.035	0.047	0.005	0.028	-0.021	0.176
	(0.027)	(0.046)	(0.028)	(0.067)	(0.029)	(0.140)
N	1607		1456		1304	

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP).
For corresponding union membership equation see Table 6. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, seven regional dummies.

Table 10
Social Custom, Union Membership and Wages
West Germany
- wage equation -

	1985		*1989*		*1993*	
Specification	*I*	*II*	*I*	*II*	*I*	*II*
Constant	1.841	1.901	2.020	2.033	2.075	2.173
	(0.228)	(0.240)	(0.160)	(0.163)	(0.218)	(0.262)
Union density (-1)	0.3×10^{-3}	0.9×10^{-3}	0.001	0.9×10^{-3}	0.001	0.001
	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)
Individual characteristics						
Qualified blue-collar worker	0.098	0.094	0.054	0.056	0.078	0.078
	(0.030)	(0.031)	(0.026)	(0.026)	(0.026)	(0.028)
Ordinary white-collar worker	0.201	0.209	0.190	0.194	0.114	0.137
	(0.048)	(0.049)	(0.043)	(0.044)	(0.054)	(0.064)
Qualified white-collar worker	0.339	0.360	0.264	0.274	0.284	0.340
	(0.046)	(0.050)	(0.043)	(0.049)	(0.081)	(0.106)
Tenure (years)	0.022	0.018	0.011	0.011	0.015	0.001
	(0.015)	(0.016)	(0.012)	(0.012)	(0.022)	(0.028)
Tenure ^2 (years)	-0.001	-0.001	-0.6×10^{-3}	-0.5×10^{-3}	-0.002	-0.1×10^{-3}
	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.003)
Tenure ^3 (years)	0.2×10^{-4}	0.4×10^{-5}	0.2×10^{-4}	0.1×10^{-4}	0.7×10^{-4}	0.1×10^{-4}
	(0.8×10^{-4})	(0.8×10^{-4})	(0.7×10^{-4})	(0.7×10^{-4})	(0.1×10^{-3})	(0.1×10^{-4})
Tenure ^4 (years)	-0.1×10^{-6}	-0.4×10^{-6}	-0.3×10^{-6}	-0.2×10^{-6}	-0.9×10^{-6}	-0.3×10^{-6}
	(0.1×10^{-6})	(0.1×10^{-5})	(0.9×10^{-6})	(0.1×10^{-5})	(0.1×10^{-5})	(0.2×10^{-5})
Experience (years)	0.050	0.051	0.101	0.103	0.097	0.106
	(0.045)	(0.046)	(0.034)	(0.035)	(0.040)	(0.046)
Experience ^2 (years)	-0.003	-0.003	-0.008	-0.008	-0.005	-0.006
	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
Experience ^3 (years)	0.9×10^{-4}	0.9×10^{-4}	0.3×10^{-3}	0.3×10^{-3}	0.1×10^{-3}	0.1×10^{-3}
	(0.1×10^{-3})	(0.1×10^{-3})	(0.1×10^{-3})	(0.1×10^{-3})	(0.1×10^{-3})	(0.1×10^{-3})
Experience ^4 (years)	-0.1×10^{-5}	-0.1×10^{-5}	-0.3×10^{-5}	-0.3×10^{-5}	-0.9×10^{-6}	-0.1×10^{-5}
	(0.1×10^{-5})	(0.1×10^{-5})	(0.1×10^{-5})	(0.1×10^{-5})	(0.1×10^{-5})	(0.1×10^{-5})
Foreigner	0.080	0.074	0.014	0.014	0.015	0.015
	(0.045)	(0.046)	(0.030)	(0.030)	(0.029)	(0.032)
Schooling level: 10th class	0.061	0.054	0.093	0.088	0.007	-0.002
	(0.076)	(0.078)	(0.055)	(0.057)	(0.048)	(0.053)
Schooling level: univ. entry qual.	0.283	0.282	0.242	0.239	0.133	0.124
	(0.082)	(0.084)	(0.060)	(0.060)	(0.056)	(0.063)
Occupat. qual.: apprenticeship	0.096	0.098	0.044	0.047	0.068	0.060
	(0.032)	(0.033)	(0.029)	(0.030)	(0.030)	(0.035)
Occupat. qual.: university degree	0.243	0.266	0.201	0.208	0.179	0.179
	(0.067)	(0.071)	(0.053)	(0.055)	(0.050)	(0.055)
Firm characteristics						
Firm size: 20 - 199 employees	0.061	0.048	0.067	0.060	0.109	0.064
	(0.036)	(0.039)	(0.036)	(0.039)	(0.067)	(0.087)
Firm size: 200 - 1999 employees	0.106	0.073	0.122	0.110	0.170	0.104
	(0.061)	(0.068)	(0.048)	(0.056)	(0.092)	(0.122)
Firm size: 2000 or more employees	0.161	0.126	0.175	0.159	0.220	0.142
	(0.064)	(0.072)	(0.063)	(0.075)	(0.108)	(0.143)
Endogenous variable						
Latent union membership	0.022	0.049	0.009	0.019	-0.007	0.040
	(0.044)	(0.050)	(0.035)	(0.043)	(0.064)	(0.085)
N	734		796		775	

Notes: Model: Simultaneous equation model. Data source: German Socio Economic Panel (GSOEP).
For corresponding union membership equation see Table 7. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, seven regional dummies

Table 11

Social Custom, Union Membership and Wages

Great Britain

- union membership equation employing partner information: general reputation function-

	1991	*1992*	*1993*	*1994*	*1995*
Constant	-0.692	1.180	-1.773	-1.393	-1.819
	(10.155)	(1.484)	(1.113)	(1.991)	(1.453)
Social custom variables					
Partner pref. Labour * union density (-1)	0.010	0.021	0.014	0.021	0.009
	(0.004)	(0.005)	(0.005)	(0.006)	(0.005)
Partner pref. Conserv. * union density (-1)	0.001	0.4×10^{-3}	-0.001	-0.001	-0.004
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Union density (-1)	0.020	0.009	0.016	0.010	0.008
	(0.007)	(0.008)	(0.008)	(0.007)	(0.007)
Individual characteristics					
Ethnic	0.014	0.738	1.088	0.906	0.220
	(0.422)	(0.648)	(0.585)	(0.602)	(0.553)
Manager	-0.402	-0.342	-0.906	-0.685	-1.035
	(0.245)	(0.294)	(0.296)	(0.402)	(0.408)
Foreman	-0.209	0.030	-0.170	0.094	-0.569
	(0.202)	(0.205)	(0.197)	(0.234)	(0.243)
Education: higher degree	-1.081	-0.532	-1.320	-0.993	-1.229
	(0.482)	(0.602)	(0.552)	(0.649)	(0.599)
Education: other higher qualifications	-0.410	-0.012	-0.012	0.106	-0.194
	(0.293)	(0.316)	(0.335)	(0.477)	(0.382)
Education: A-levels	-0.469	-0.092	0.170	-0.045	-0.291
	(0.299)	(0.356)	(0.352)	(0.413)	(0.358)
Education: O-levels	-0.353	-0.248	0.012	0.035	-0.184
	(0.233)	(0.259)	(0.271)	(0.291)	(0.312)
Education: apprenticeship	0.188	0.337	0.380	0.503	0.876
	(0.300)	(0.325)	(0.324)	(0.367)	(0.420)
Tenure (years)	0.045	0.047	0.033	0.036	0.039
	(0.012)	(0.015)	(0.014)	(0.015)	(0.015)
Experience (years)	0.004	-0.2×10^{-3}	0.351	-0.2×10^{-3}	0.008
	(0.009)	(0.932)	(0.009)	(0.010)	(0.010)
Firm characteristics					
Firm size: 25 - 49 employees	0.608	0.480	-0.122	0.187	-0.268
	(0.281)	(0.314)	(0.325)	(0.339)	(0.344)
Firm size: 50 - 99 employees	0.283	0.386	0.232	0.077	0.390
	(0.262)	(0.299)	(0.308)	(0.315)	(0.342)
Firm size: 100 - 199 employees	0.500	0.401	0.438	0.049	0.169
	(0.268)	(0.284)	(0.312)	(0.309)	(0.338)
Firm size: 200 - 499 employees	0.660	0.709	0.366	0.457	0.198
	(0.239)	(0.264)	(0.283)	(0.262)	(0.305)
Firm size: 500 - 999 employees	0.371	0.550	0.033	0.106	-0.035
	(0.278)	(0.308)	(0.331)	(0.322)	(0.381)
Firm size: 1000 or more employees	0.921	0.750	0.648	0.874	0.432
	(0.285)	(0.331)	(0.340)	(0.451)	(0.405)
Endogenous variable					
ln hourly wage	-0.122	-0.944	0.452	0.334	1.091
	(0.757)	(0.907)	(0.814)	(1.346)	(0.949)
N	517	453	402	373	389

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding wage equation see Table 15. Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven industry dummies.

Table 12

Social Custom, Union Membership and Wages

Great Britain

- union membership equation employing partner information: imposed restriction sovereignty -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	-2.294	0.345	-2.543	-2.993	2.545
	(1.160)	(1.287)	(1.178)	(1.980)	(1.493)
Social custom variables					
Partner prefers Labour	0.446	0.842	0.569	0.726	0.451
	(0.190)	(0.194)	(0.213)	(0.227)	(0.215)
Partner prefers Conservatives	0.038	-0.004	-0.091	0.008	0.237
	(0.186)	(0.175)	(0.211)	(0.232)	(0.251)
Individual characteristics					
Ethnic	0.170	0.856	1.270	0.672	0.248
	(0.453)	(0.628)	(0.620)	(0.661)	(0.604)
Manager	-0.696	-0.466	-1.052	-0.971	1.227
	(0.252)	(0.264)	(0.322)	(0.416)	(0.421)
Foreman	-0.403	-0.074	-0.231	0.016	0.622
	(0.212)	(0.187)	(0.216)	(0.255)	(0.264)
Education: higher degree	-10.645	-0.895	-1.654	-10.442	1.546
	(0.493)	(0.522)	(0.583)	(0.671)	(0.613)
Education: other higher qualifications	-0.688	-0.141	-0.174	-0.289	0.350
	(0.306)	(0.288)	(0.360)	(0.484)	(0.399)
Education: A-levels	-0.725	-0.240	-0.010	-0.295	0.386
	(0.314)	(0.319)	(0.378)	(0.439)	(0.386)
Education: O-levels	-0.431	-0.257	-0.046	-0.083	0.244
	(0.250)	(0.243)	(0.299)	(0.320)	(0.335)
Education: apprenticeship	-0.016	0.278	0.313	0.309	0.782
	(0.317)	(0.306)	(0.358)	(0.400)	(0.443)
Tenure (years)	0.039	0.044	0.031	0.031	0.037
	(0.013)	(0.015)	(0.015)	(0.016)	(0.016)
Experience (years)	-0.003	-0.001	0.001	-0.004	0.006
	(0.010)	(0.009)	(0.010)	(0.012)	(0.011)
Firm characteristics					
Firm size: 25 - 49 employees	0.521	0.400	-0.081	0.271	0.252
	(0.305)	(0.288)	(0.360)	(0.378)	(0.380)
Firm size: 50 - 99 employees	0.237	0.391	0.189	0.011	0.468
	(0.284)	(0.278)	(0.342)	(0.353)	(0.371)
Firm size: 100 - 199 employees	0.545	0.355	0.488	0.182	0.183
	(0.291)	(0.261)	(0.344)	(0.340)	(0.373)
Firm size: 200 - 499 employees	0.635	0.697	0.404	0.468	0.121
	(0.260)	(0.245)	(0.313)	(0.298)	(0.337)
Firm size: 500 - 999 employees	0.229	0.493	-0.143	0.021	0.204
	(0.300)	(0.283)	(0.364)	(0.358)	(0.406)
Firm size: 1000 or more employees	0.841	0.707	0.579	0.681	0.334
	(0.305)	(0.300)	(0.372)	(0.477)	(0.438)
Endogenous variable					
ln hourly wage	1.377	-0.208	1.429	1.609	0.764
	(0.678)	(0.717)	(0.758)	(1.263)	(0.889)
N	517	453	402	373	389

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding wage equation see Table 16. Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven industry dummies.

Table 13

Social Custom, Union Membership and Wages

Great Britain

- union membership equation employing father information: general reputation function -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	-0.320	1.620	-1.535	-0.418	-0.396
	(1.273)	(1.871)	(1.198)	(2.235)	(1.854)
Social custom variables					
Father blue-collar w. * union density (-1)	0.007	0.004	0.014	0.014	0.004
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Union density (-1)	0.020	0.007	0.010	0.017	0.014
	(0.007)	(0.010)	(0.010)	(0.009)	(0.009)
Individual characteristics					
Ethnic	-0.062	0.647	1.293	0.869	0.169
	(0.418)	(0.616)	(0.665)	(0.666)	(0.608)
Manager	-0.240	-0.360	-1.121	-0.629	-0.903
	(0.268)	(0.343)	(0.344)	(0.441)	(0.480)
Foreman	-0.120	-0.027	-0.208	0.111	-0.302
	(0.221)	(0.228)	(0.240)	(0.281)	(0.299)
Education: higher degree	-0.836	-0.522	-1.312	-0.554	-0.793
	(0.501)	(0.642)	(0.610)	(0.730)	(0.653)
Education: other higher qualifications	-0.283	-0.006	-0.043	0.363	0.123
	(0.323)	(0.350)	(0.369)	(0.498)	(0.411)
Education: A-levels	-0.417	-0.199	0.065	0.346	0.090
	(0.318)	(0.399)	(0.402)	(0.494)	(0.439)
Education: O-levels	-0.284	-0.245	-0.040	0.300	0.055
	(0.255)	(0.279)	(0.322)	(0.336)	(0.347)
Education: apprenticeship	0.089	0.088	0.2691	0.709	1.022
	(0.314)	(0.350)	(0.412)	(0.419)	(0.487)
Tenure (years)	0.054	0.050	0.043	0.036	0.042
	(0.013)	(0.015)	(0.016)	(0.016)	(0.016)
Experience (years)	0.001	-0.007	-0.009	-0.019	-0.002
	(0.010)	(0.010)	(0.011)	(0.012)	(0.011)
Firm characteristics					
Firm size: 25 - 49 employees	0.644	0.403	-0.166	0.788	0.051
	(0.293)	(0.332)	(0.380)	(0.459)	(0.411)
Firm size: 50 - 99 employees	0.347	0.157	0.073	0.097	0.372
	(0.278)	(0.324)	(0.378)	(0.365)	(0.413)
Firm size: 100 - 199 employees	0.595	0.270	0.293	0.437	0.513
	(0.278)	(0.313)	(0.363)	(0.364)	(0.415)
Firm size: 200 - 499 employees	0.644	0.584	0.506	0.618	0.469
	(0.247)	(0.283)	(0.340)	(0.309)	(0.346)
Firm size: 500 - 999 employees	0.327	0.190	-0.33	0.151	0.267
	(0.285)	(0.343)	(0.386)	(0.375)	(0.411)
Firm size: 1000 or more employees	0.981	0.695	0.851	0.910	0.954
	(0.294)	(0.373)	(0.419)	(0.478)	(0.450)
Endogenous variable					
ln hourly wage	-0.434	-0.844	0.508	-0.404	0.091
	(0.818)	(1.121)	(0.857)	(1.456)	(1.100)
N	467	381	324	290	285

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding wage equation see Table 16. Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven industry dummies.

Table 14

Social Custom, Union Membership and Wages

Great Britain

- union membership equation employing father information: imposed restriction sovereignty -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	-2.266	0.652	-2.204	-2.885	-1.427
	(1.266)	(1.629)	(1.264)	(2.217)	(1.879)
Social custom variable					
Father blue-collar worker	0.297	0.249	0.455	0.487	0.217
	(0.167)	(0.178)	(0.224)	(0.216)	(0.210)
Individual characteristics					
Ethnic	0.110	0.760	1.522	0.645	0.320
	(0.444)	(0.578)	(0.706)	(0.713)	(0.624)
Manager	-0.593	-0.485	-1.215	-0.940	-1.158
	(0.269)	(0.300)	(0.366)	(0.449)	(0.478)
Foreman	-0.356	-0.103	-0.254	0.036	-0.381
	(0.224)	(0.205)	(0.257)	(0.294)	(0.305)
Education: higher degree	-1.413	-0.765	-1.677	-1.186	-1.185
	(0.512)	(0.558)	(0.644)	(0.732)	(0.648)
Education: other higher qualifications	-0.580	-0.090	-0.216	-0.147	-0.096
	(0.333)	(0.317)	(0.390)	(0.486)	(0.410)
Education: A-levels	-0.679	-0.320	-0.127	-0.094	-0.108
	(0.329)	(0.354)	(0.420)	(0.493)	(0.441)
Education: O-levels	-0.383	-0.235	-0.058	0.192	-0.046
	(0.269)	(0.264)	(0.349)	(0.355)	(0.354)
Education: apprenticeship	-0.121	0.012	0.220	0.490	0.869
	(0.325)	(0.323)	(0.438)	(0.437)	(0.492)
Tenure (years)	0.050	0.049	0.040	0.030	0.039
	(0.014)	(0.014)	(0.017)	(0.017)	(0.017)
Experience (years)	-0.007	-0.007	-0.013	-0.023	-0.004
	(0.010)	(0.009)	(0.012)	(0.013)	(0.012)
Firm characteristics					
Firm size: 25 - 49 employees	0.555	0.336	-0.105	0.941	0.156
	(0.312)	(0.305)	(0.409)	(0.484)	(0.420)
Firm size: 50 - 99 employees	0.277	0.151	0.077	0.004	0.544
	(0.297)	(0.302)	(0.408)	(0.393)	(0.416)
Firm size: 100 - 199 employees	0.643	0.203	0.370	0.592	0.581
	(0.296)	(0.285)	(0.393)	(0.381)	(0.424)
Firm size: 200 - 499 employees	0.622	0.569	0.553	0.617	0.446
	(0.263)	(0.263)	(0.363)	(0.331)	(0.356)
Firm size: 500 - 999 employees	0.189	0.133	-0.341	0.142	0.145
	(0.302)	(0.315)	(0.417)	(0.402)	(0.420)
Firm size: 1000 or more employees	0.866	0.594	0.810	0.645	0.863
	(0.310)	(0.338)	(0.445)	(0.495)	(0.459)
Endogenous variable					
ln hourly wage	1.205	-0.152	1.315	1.510	1.019
	(0.734)	(0.867)	(0.799)	(1.339)	(1.041)
N	467	381	324	290	285

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding wage equation see Table 17. Dependent variable: union membership dummy.
Asymptotic standard errors in parentheses.
Other variables included in the union membership equation: seven industry dummies.

Table 15

Social Custom, Union Membership and Wages

Great Britain

- wage equation -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	1.055	1.299	0.787	1.268	0.921
	(0.144)	(0.162)	(0.195)	(0.144)	(0.210)
Union density (-1)	0.005	0.003	0.005	0.002	0.005
	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Individual characteristics					
Ethnic	-0.173	-0.239	-0.226	-0.078	-0.169
	(0.082)	(0.116)	(0.120)	(0.102)	(0.124)
Manager	0.178	0.181	0.155	0.245	0.228
	(0.047)	(0.055)	(0.076)	(0.049)	(0.102)
Foreman	0.106	0.073	0.043	0.062	0.022
	(0.037)	(0.040)	(0.042)	(0.038)	(0.067)
Education: higher degree	0.358	0.464	0.430	0.421	0.373
	(0.098)	(0.091)	(0.104)	(0.080)	(0.121)
Education: other higher qualifications	0.188	0.187	0.231	0.263	0.264
	(0.052)	(0.052)	(0.051)	(0.050)	(0.063)
Education: A-levels	0.179	0.236	0.232	0.197	0.143
	(0.056)	(0.057)	(0.057)	(0.056)	(0.070)
Education: O-levels	0.058	0.063	0.103	0.053	0.084
	(0.048)	(0.050)	(0.050)	(0.049)	(0.065)
Education: Apprenticeship	0.151	0.071	0.064	0.074	0.192
	(0.052)	(0.060)	(0.064)	(0.064)	(0.125)
Tenure (years)	0.013	0.002	0.8×10^{-3}	0.003	0.015
	(0.008)	(0.007)	(0.006)	(0.006)	(0.012)
Tenure ^2 (years)	-0.2×10^{-3}	-0.5×10^{-3}	0.6×10^{-4}	-0.5×10^{-4}	-0.1×10^{-3}
	(0.2×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.4×10^{-3})
Experience (years)	0.024	0.015	0.030	0.019	0.036
	(0.006)	(0.007)	(0.008)	(0.006)	(0.011)
Experience^2 (years)	-0.4×10^{-3}	-0.3×10^{-3}	-0.6×10^{-3}	-0.3×10^{-3}	-0.7×10^{-3}
	(0.1×10^{-3})	(0.1×10^{-3})	(0.2×10^{-3})	(0.1×10^{-3})	(0.2×10^{-3})
Firm characteristics					
Firm size: 25 - 49 employees	0.060	0.062	-0.011	-0.062	-0.022
	(0.069)	(0.067)	(0.069)	(0.064)	(0.082)
Firm size: 50 - 99 employees	0.037	-0.013	0.031	0.080	-0.040
	(0.058)	(0.065)	(0.066)	(0.059)	(0.080)
Firm size: 100 - 199 employees	-0.010	0.036	-0.041	-0.076	-0.021
	(0.065)	(0.063)	(0.067)	(0.057)	(0.078)
Firm size: 200 - 499 employees	0.054	0.021	0.039	0.008	0.130
	(0.065)	(0.061)	(0.062)	(0.053)	(0.074)
Firm size: 500 - 999 employees	0.073	0.078	0.139	0.069	0.210
	(0.061)	(0.066)	(0.065)	(0.058)	(0.075)
Firm size: 1000 or more employees	0.190	0.181	0.158	0.167	0.283
	(0.077)	(0.063)	(0.072)	(0.068)	(0.106)
Endogenous variables					
Latent union membership	-0.067	-0.013	-0.051	0.036	-0.137
	(0.060)	(0.034)	(0.063)	(0.034)	(0.105)
N	517	453	402	373	389

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding union membership equation see Table 11. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, six regional dummies.

Table 16

Social Custom, Union Membership and Wages

Great Britain

- wage equation -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	1.102	1.315	0.870	1.283	0.939
	(0.131)	(0.160)	(0.182)	(0.157)	(0.180)
Union density (-1)	0.004	0.003	0.004	0.002	0.005
	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Individual characteristics					
Ethnic	-0.176	-0.266	-0.265	-0.089	-0.172
	(0.072)	(0.116)	(0.111)	(0.112)	(0.109)
Manager	0.191	0.193	0.191	0.256	0.240
	(0.043)	(0.054)	(0.070)	(0.055)	(0.082)
Foreman	0.113	0.074	0.052	0.060	0.029
	(0.033)	(0.039)	(0.040)	(0.041)	(0.056)
Education: higher degree	0.399	0.483	0.472	0.434	0.382
	(0.091)	(0.091)	(0.096)	(0.088)	(0.102)
Education: other higher qualifications	0.205	0.192	0.230	0.261	0.263
	(0.047)	(0.051)	(0.048)	(0.054)	(0.055)
Education: A-levels	0.197	0.241	0.228	0.196	0.145
	(0.051)	(0.056)	(0.054)	(0.060)	(0.061)
Education: O-levels	0.072	0.069	0.107	0.052	0.085
	(0.043)	(0.049)	(0.047)	(0.053)	(0.057)
Education: Apprenticeship	0.146	0.068	0.053	0.064	0.178
	(0.045)	(0.059)	(0.061)	(0.070)	(0.103)
Tenure (years)	0.009	0.001	-0.7×10^{-3}	0.002	0.013
	(0.073)	(0.006)	(0.006)	(0.006)	(0.010)
Tenure ^2 (years)	-0.1×10^{-3}	-0.4×10^{-4}	-0.7×10^{-4}	-0.5×10^{-4}	-0.1-03
	(0.2×10^{-3})	(0.2×10^{-3})	(0.1×10^{-3})	(0.2×10^{-3})	(0.3-03)
Experience (years)	0.023	0.015	0.027	0.018	0.035
	(0.005)	(0.007)	(0.008)	(0.007)	(0.009)
Experience^2 (years)	-0.4×10^{-3}	-0.3×10^{-3}	-0.7×10^{-3}	-0.3×10^{-3}	-0.7-03
	(0.1×10^{-4})	(0.1×10^{-3})	(0.1×10^{-3})	(0.1×10^{-3})	(0.1-03)
Firm characteristics					
Firm size: 25 - 49 employees	0.036	0.050	-0.3×10^{-3}	-0.064	-0.020
	(0.064)	(0.067)	(0.066)	(0.069)	(0.072)
Firm size: 50 - 99 employees	0.025	-0.021	0.021	0.078	-0.045
	(0.052)	(0.064)	(0.063)	(0.063)	(0.070)
Firm size: 100 - 199 employees	-0.032	0.027	-0.055	-0.078	-0.019
	(0.060)	(0.062)	(0.063)	(0.062)	(0.069)
Firm size: 200 - 499 employees	0.028	0.006	0.024	0.001	0.126
	(0.060)	(0.061)	(0.059)	(0.058)	(0.064)
Firm size: 500 - 999 employees	0.059	0.067	0.140	0.064	0.208
	(0.055)	(0.066)	(0.062)	(0.063)	(0.066)
Firm size: 1000 or more employees	0.155	0.169	0.137	0.150	0.273
	(0.073)	(0.063)	(0.068)	(0.077)	(0.090)
Endogenous variables					
Union membership	-0.031	0.006	-0.013	0.052	-0.123
	(0.059)	(0.038)	(0.056)	(0.043)	(0.082)
N	517	453	402	373	389

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding union membership equation see Table 12. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, six regional dummies.

Table 17

Social Custom, Union Membership and Wages

Great Britain

- wage equation -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	1.199	1.399	0.844	1.243	0.988
	(0.143)	(0.245)	(0.191)	(0.1628)	(0.377)
Union density (-1)	0.002	0.004	0.004	0.003	0.004
	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)
Individual characteristics					
Ethnic	-0.177	-0.111	-0.342	-0.067	-0.245
	(0.073)	(0.251)	(0.138)	(0.126)	(0.158)
Manager	0.220	0.121	0.226	0.206	0.241
	(0.044)	(0.129)	(0.080)	(0.062)	(0.264)
Foreman	0.131	0.058	0.071	0.068	0.076
	(0.033)	(0.060)	(0.046)	(0.044)	(0.085)
Education: higher degree	0.430	0.298	0.456	0.366	0.367
	(0.105)	(0.225)	(0.117)	(0.098)	(0.225)
Education: other higher qualifications	0.231	0.152	0.174	0.229	0.235
	(0.052)	(0.083)	(0.055)	(0.056)	(0.076)
Education: A-levels	0.218	0.166	0.174	0.201	0.188
	(0.058)	(0.113)	(0.062)	(0.064)	(0.084)
Education: O-levels	0.105	0.008	0.068	0.031	0.094
	(0.046)	(0.095)	(0.055)	(0.058)	(0.077)
Education: Apprenticeship	0.143	0.076	0.030	0.068	0.188
	(0.047)	(0.092)	(0.071)	(0.076)	(0.285)
Tenure (years)	0.005	0.011	0.002	0.006	0.008
	(0.007)	(0.016)	(0.007)	(0.006)	(00.185)
Tenure ^2 (years)	-0.8×10^{-4}	-0.2×10^{-3}	-0.7×10^{-4}	-0.1×10^{-3}	-0.9×10^{-4}
	(0.2×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.4×10^{-3})
Experience (years)	0.024	0.010	0.032	0.017	0.041
	(0.005)	(0.011)	(0.008)	(0.009)	(0.026)
Experience^2 (years)	-0.4×10^{-3}	-0.2×10^{-3}	-0.6×10^{-3}	-0.3×10^{-3}	-0.8×10^{-3}
	(0.1×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.1×10^{-3})	(0.5×10^{-3})
Firm characteristics					
Firm size: 25 - 49 employees	0.011	0.104	-0.002	-0.063	-0.072
	(0.074)	(0.126)	(0.076)	(0.087)	(0.106)
Firm size: 50 - 99 employees	0.017	-0.014	-0.029	0.042	-0.116
	(0.059)	(0.104)	(0.071)	(0.067)	(0.117)
Firm size: 100 - 199 employees	-0.051	0.081	-0.051	-0.088	-0.027
	(0.070)	(0.102)	(0.070)	(0.067)	(0.158)
Firm size: 200 - 499 employees	0.003	0.086	0.002	-0.011	0.129
	(0.070)	(0.147)	(0.068)	(0.065)	(0.149)
Firm size: 500 - 999 employees	0.045	0.100	0.114	0.022	0.179
	(0.059)	(0.102)	(0.074)	(0.068)	(0.114)
Firm size: 1000 or more employees	0.131	0.260	0.136	0.173	0.253
	(0.086)	(0.140)	(0.083)	(0.079)	(0.263)
Endogenous variables					
Latent union membership	0.013	-0.147	0.001	-0.017	-0.113
	(0.075)	(0.203)	(0.059)	(0.052)	(0.245)
N	467	381	324	290	285

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding union membership equation see Table 13. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, six regional dummies.

Table 18

Social Custom, Union Membership and Wages

Great Britain

- wage equation -

	1991	*1992*	*1993*	*1994*	*1995*
Constant	1.205	1.396	0.921	1.207	0.904
	(0.149)	(0.245)	(0.239)	(0.163)	(0.476)
Union density (-1)	0.002	0.004	0.003	0.004	0.006
	(0.002)	(0.002)	(0.002)	(0.002)	(0.007)
Individual characteristics					
Ethnic	-0.177	-0.091	-0.392	-0.022	-0.228
	(0.076)	(0.258)	(0.166)	(0.132)	(0.178)
Manager	0.222	0.110	0.267	0.172	0.163
	(0.045)	(0.132)	(0.108)	(0.070)	(0.361)
Foreman	0.131	0.057	0.079	0.073	0.059
	(0.034)	(0.061)	(0.051)	(0.044)	(0.107)
Education: higher degree	0.436	0.281	0.511	0.320	0.306
	(0.111)	(0.230)	(0.152)	(0.107)	(0.301)
Education: other higher qualifications	0.234	0.149	0.175	0.238	0.241
	(0.055)	(0.084)	(0.060)	(0.055)	(0.087)
Education: A-levels	0.221	0.159	0.174	0.209	0.190
	(0.061)	(0.115)	(0.067)	(0.063)	(0.095)
Education: O-levels	0.107	0.003	0.072	0.043	0.097
	(0.048)	(0.096)	(0.060)	(0.058)	(0.087)
Education: Apprenticeship	0.144	0.076	0.022	0.096	0.269
	(0.049)	(0.092)	(0.078)	(0.080)	(0.386)
Tenure (years)	0.005	0.013	-0.1-03	0.009	0.013
	(0.008)	(0.017)	(0.009)	(0.006)	(0.024)
Tenure ^2 (years)	-0.7×10^{-4}	-0.2×10^{-3}	-0.2×10^{-4}	-0.2×10^{-3}	-0.2×10^{-4}
	(0.2×10^{-3})	(0.4×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.5×10^{-3})
Experience (years)	0.024	0.009	0.030	0.015	0.048
	(0.005)	(0.011)	(0.010)	(0.009)	(0.034)
Experience^2 (years)	-0.4×10^{-3}	-0.2×10^{-3}	-0.6×10^{-3}	-0.3×10^{-3}	-0.9×10^{-3}
	(0.1×10^{-3})	(0.2×10^{-3})	(0.2×10^{-3})	(0.1×10^{-3})	(0.6×10^{-3})
Firm characteristics					
Firm size: 25 - 49 employees	0.007	0.113	0.011	-0.023	-0.073
	(0.078)	(0.129)	(0.084)	(0.096)	(0.118)
Firm size: 50 - 99 employees	0.015	-0.010	-0.033	0.045	-0.095
	(0.061)	(0.105)	(0.077)	(0.065)	(0.143)
Firm size: 100 - 199 employees	-0.054	0.087	-0.060	-0.071	0.008
	(0.074)	(0.103)	(0.077)	(0.068)	(0.200)
Firm size: 200 - 499 employees	-0.001	0.099	-0.014	0.014	0.167
	(0.074)	(0.151)	(0.078)	(0.068)	(0.193)
Firm size: 500 - 999 employees	0.043	0.104	0.126	0.024	0.200
	(0.061)	(0.102)	(0.083)	(0.066)	(0.137)
Firm size: 1000 or more employees	0.126	0.270	0.105	0.208	0.326
	(0.091)	(0.143)	(0.103)	(0.086)	(0.352)
Endogenous variables					
Latent union membership	0.019	-0.167	0.041	-0.062	-0.188
	(0.080)	(0.211)	(0.089)	(0.070)	(0.339)
N	467	381	324	290	285

Notes: Model: Simultaneous equation model. Data source: British Household Panel Survey (BHPS).
For corresponding union membership equation see Table 14. Dependent variable: ln hourly wage.
Asymptotic standard errors in parentheses.
Other variables included in the wage equation: seven industry dummies, six regional dummies.